1ST – PRINTING – NV

SEGA®

Out Run

STANDARD TYPE

OWNER'S MANUAL



SEGA ENTERPRISES, LTD.

MANUAL NO. 420−5315−01

SPECIFICATIONS

- INSTALLATION SPACE : A TYPE 1130 mm (44.5 in.) W
  1840 mm (72.5 in.) D
  B TYPE 1130 mm (44.5 in.) W
  1740 mm (68.5 in.) D
  1695 mm (66.7 in.) H
  (1600 mm W/O Billboard H)
- POWER : 305 W
- C.R.T. : 20 inch
- WEIGHT : 300kg.(661lbs.)

NOTE • Descriptions herein contained may be subject to improvement changes without notice.

INTRODUCTION OF THE OWNER'S MANUAL

SEGA ENTERPRISES, LTD., supported by its high electronic technology of LSIs, microprocessors, etc. and a wealth of experience, has for more than 30 years been supplying various innovative and popular game machines to the world market. This OWNER'S manual is intended to provide detailed comments together with all the necessary information covering the operation in general of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards the OUT RUN, a new SEGA product. The manual is intended for those who have knowledge of electricity and technical expertise especially in ICs, CRTs, microprocessors, etc. Carefully read so as to acquire sufficient knowledge before working on the machine. Should there be a malfunction, non-technical personnel should under no circumstance touch the interior system.

1. HANDLING PRECAUTIONS

When installing or inspecting, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

- o Be sure to turn the power off before working on the machine.
- o To insert or pull out the plug quickly is dangerous.
- o It is necessary to make sure that the power cord or the grounding wire is not exposed on the road, etc. in a manner so as to be dangerous. Make sure that grounding connections are made safely at the position where so specified.
- o Do not use any fuse that does not meet the specified rating.
- o Make complete connections for the IC board and other connecters. Insufficient insertion is very dangerous.

Also, for the IC board circuit inspections, only the logic tone is allowed. The use of a tester is not permitted, so be careful in this regard. After confirming that there are no irregularities, turn the power ON.

2. PREVENTION OF COUNTERFEITING AND CONVERSION

LABELLING

To prevent counterfeits and conversions, the following labels are put on all the SEGA products. When handling such goods, be sure to confirm the labels. They are used to prevent illegal acts such as the unauthorized copying of the products and the printed circuit boards thereof or carrying on business by manufacturing similar merchandise or by converting, selling or using such products or printed circuit boards.

ORIGINAL SEAL

The following seal is put on the machines manufactured by SEGA.

LICENSE SEAL

The following seal is put on the kits, such as the printed circuit boards, of SEGA products.





COPYRIGHT NOTICE

This SEGA product has the copyright notice as follows:

© SEGA 1986

This signifies that this work was disclosed in 1986 and is the property of SEGA ENTERPRISES, LTD.

3. PRECAUTIONS CONCERNING THE PLACE OF INSTALLATION

The OUT RUN is an indoor game machine. Absolutely do not install it outside. Even indoors, avoid installing in places mentioned below so as to ensure proper usage:

- o Places subject to rain or water leakage, or condensation due to humidity.
- o In the proximity of an indoor swimming pool and/or shower.
- o Places subject to direct sunlight.
- o Places subject to heat sources from heating units, etc., or hot air.
- o Vicinity of highly inflammable/volatile chemicals or hazardous matter.
- o Sloped surfaces.
- o Vicinity of anti-disaster facilities such us fire exits and fire extinguishers.
- o Places subject to any type of violent impact.
- o Dusty places.

INSTALLATION OF THE "OUT RUN"

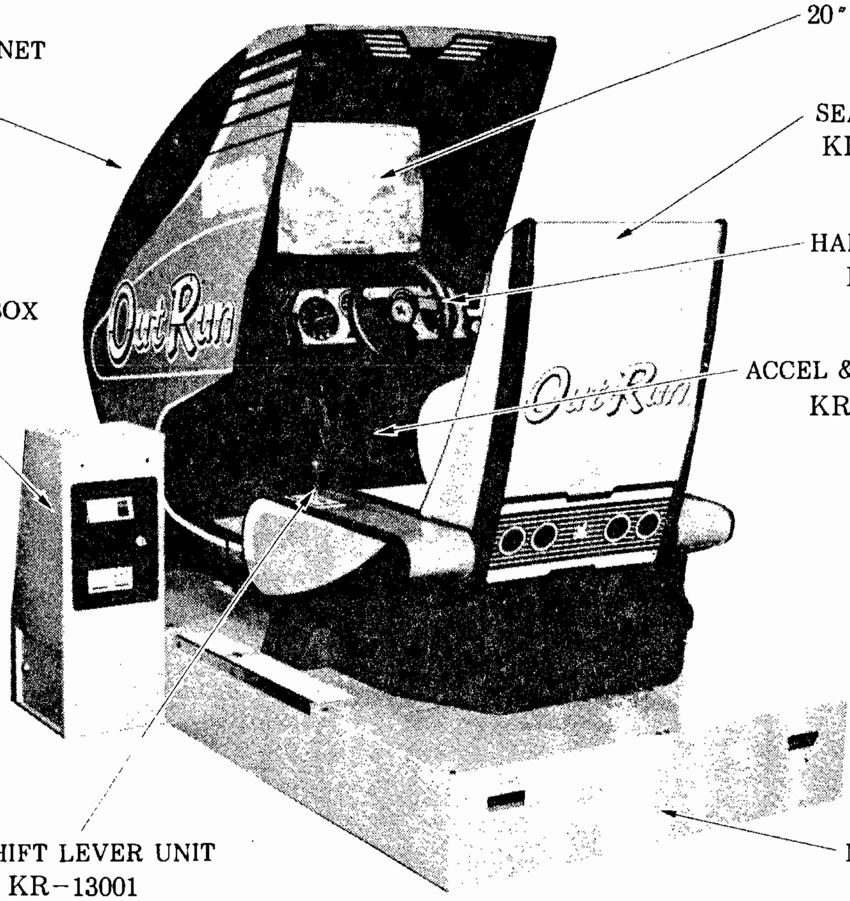
◎ Use an independent outlet for the power supply.
(The breaker may break when the maximum current is consumed if the outlet is simultaneously used for the power source of other machines.)

◎ When using an extension cord, use one with a specified rating or higher.

	AC 120V	AC 220V	AC 240V
RATED CURRENT	2.1A	1.2A	1.1A
MAXIMUM	11A	6A	5A

For installation, make doubly sure that attention be paid to the above points.

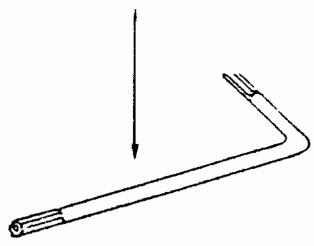
4. NAME OF PARTS



TOOLS

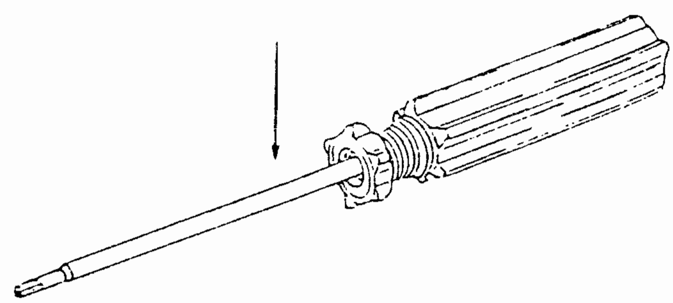
(TAMPERPROOF WRENCH)

M4 540-0006-01
M5 540-0007-01
M6 540-0015-01
M8 540-0009-01



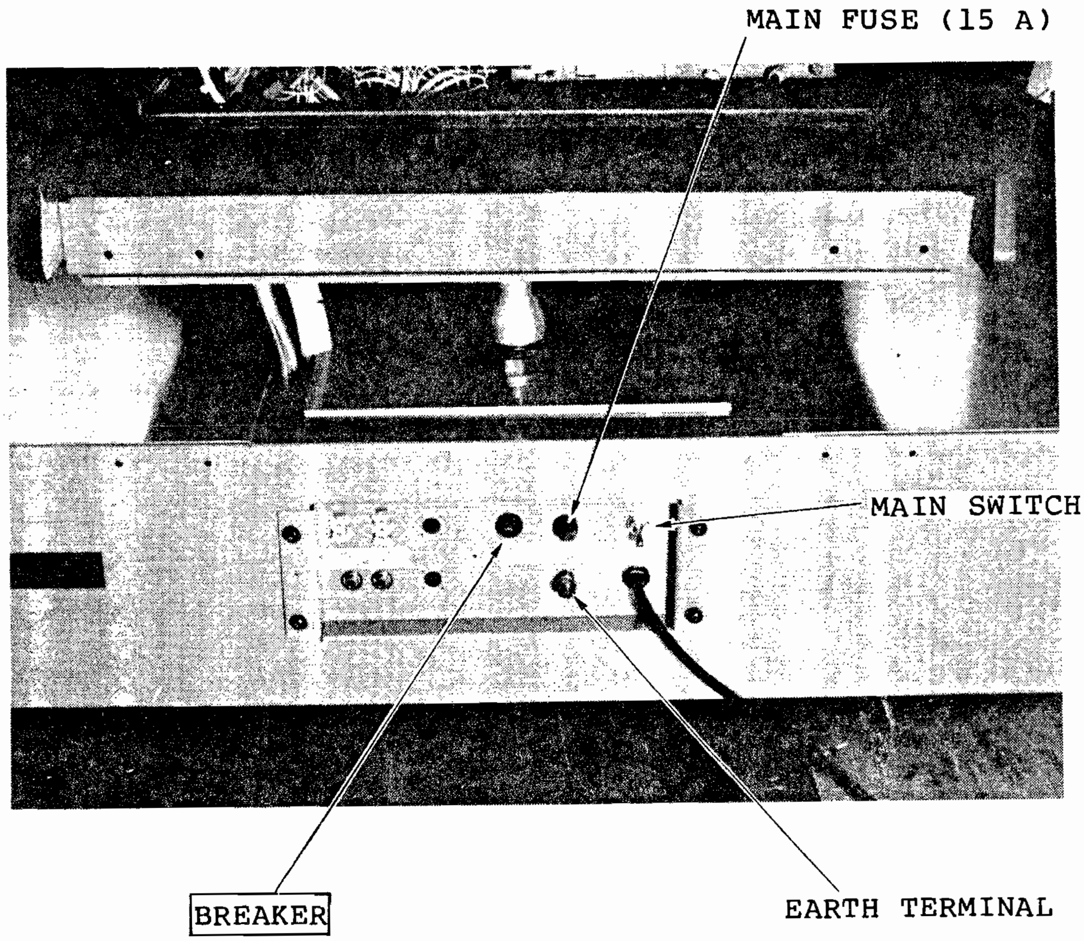
(TAMPERPROOF WRENCH)

M4 540-0018
M5 540-0017



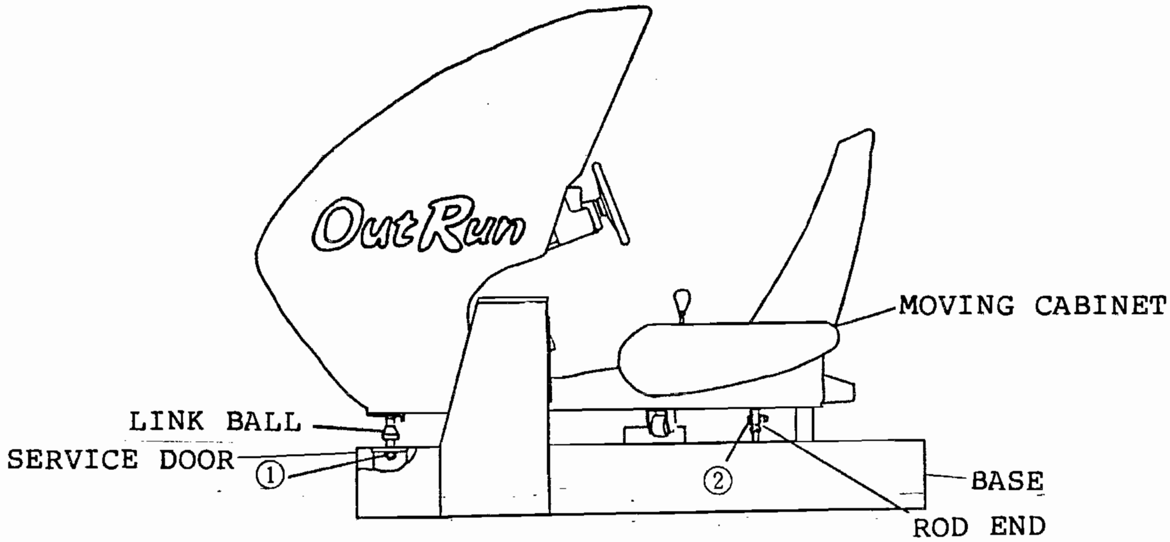
5. BREAKER

When the machine is overloaded, the breaker functions and the machine will stop. In such a case, check the breaker shown below, and if it is protruding, this signifies that the breaker has performed its function. After finishing checking, push it forward to restore the breaker to its original position.



6. DISASSEMBLING FOR THE PURPOSE OF TRANSPORTATION

When disassembling for the purpose of transportation, follow the procedure below:

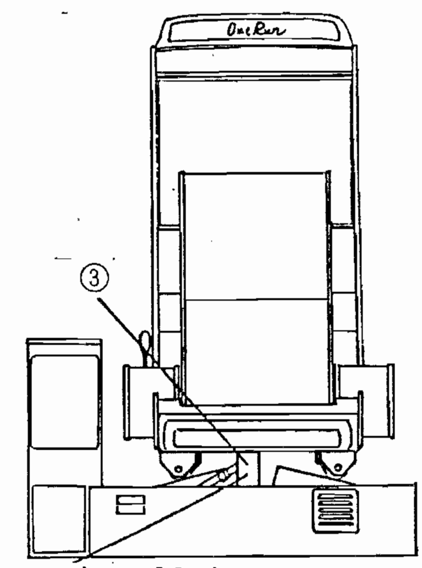


PROCEDURE

① Take off the 4 M8 bolts which secure the anti-roll bar and the moving cabinet.

② Take off the link ball's M18 nut located inside the service door which can be opened by removing the 4 tamperproof screws.

③ Take off the shoulder screw attached to the rod end.



Note: When the shoulder screw is taken off, the moving cabinet will become loose and free. As such, do not allow any unauthorized persons access to it.

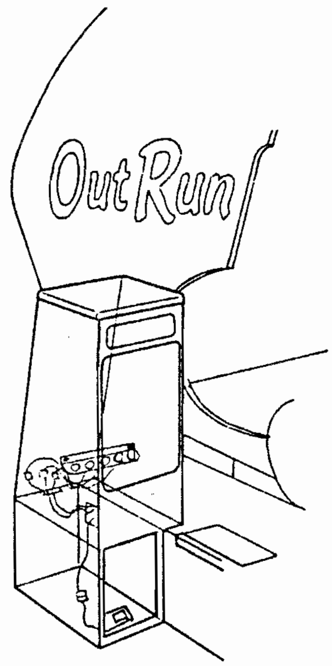
The machine can be disassembled in accordance with the above procedure. However, be sure to disconnect the connectors and cord clamp. There are a total of 28 connectors of 7 kinds, and one earth wire. When installing the moving cabinet directly on the floor, pay particular attention so that no sudden pressure is applied to the link ball.

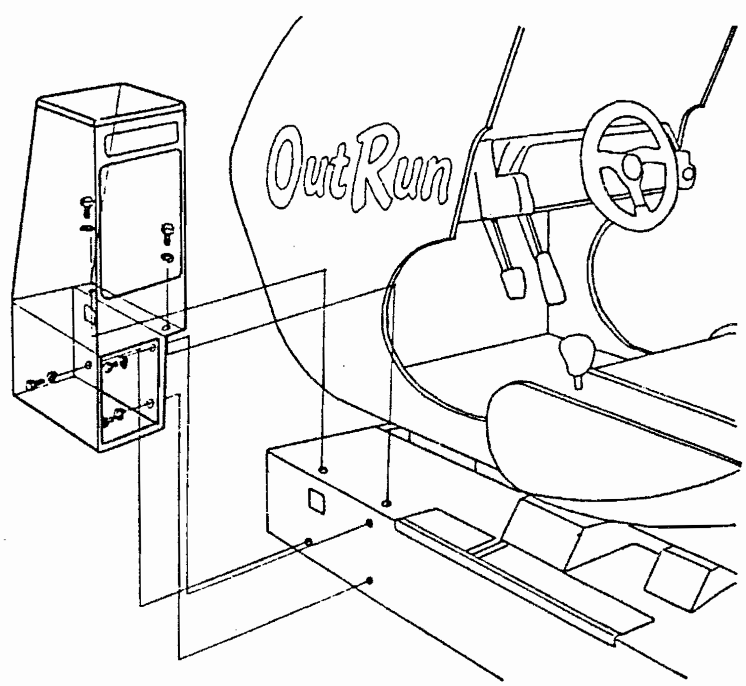
DISCONNECTION OF THE BASE AND CASHBOX

PROCEDURE

① Disconnect the 4 CONNECTORS inside of the CASHBOX, the COIN CHUTE DOOR's earth wire and the 2 CORD CLAMPS.

② Next, disconnect the CASHBOX from the BASE by removing the 5 M8 BOLTS.

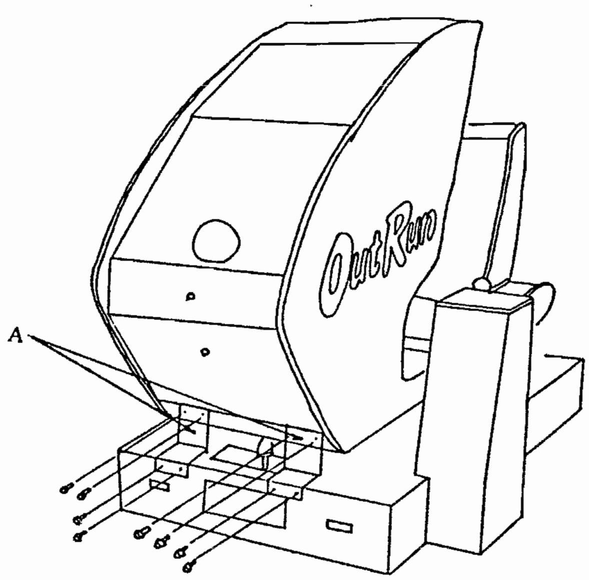




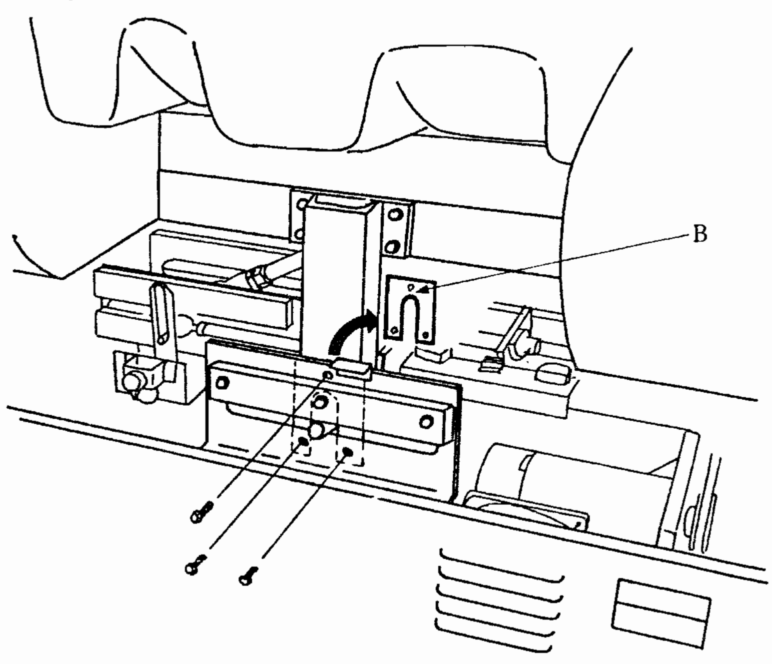
7. REMOVING THE SHIPPING PLATES

Before using the game, be sure to remove the shipping plates.
There are a total of 3 shipping plates, i.e., two (A) in the front and one (B) in the rear (see illustrations below).

To remove shipping plate A, take off the 2 M6 hexagon bolts and M5 screws.



To remove shipping plate B, take off the 3 M8 hexagon bolts and pull it upward.



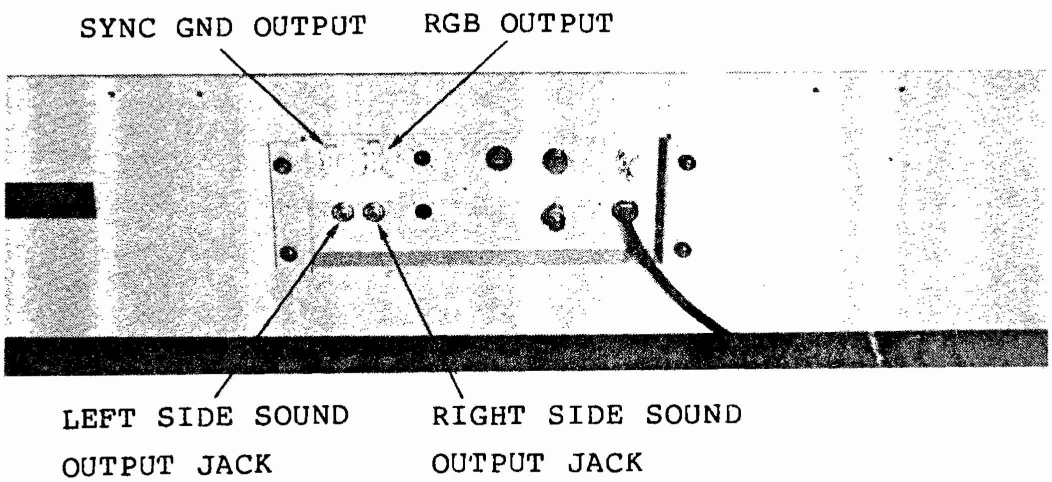
8. OUTSIDE MONITOR

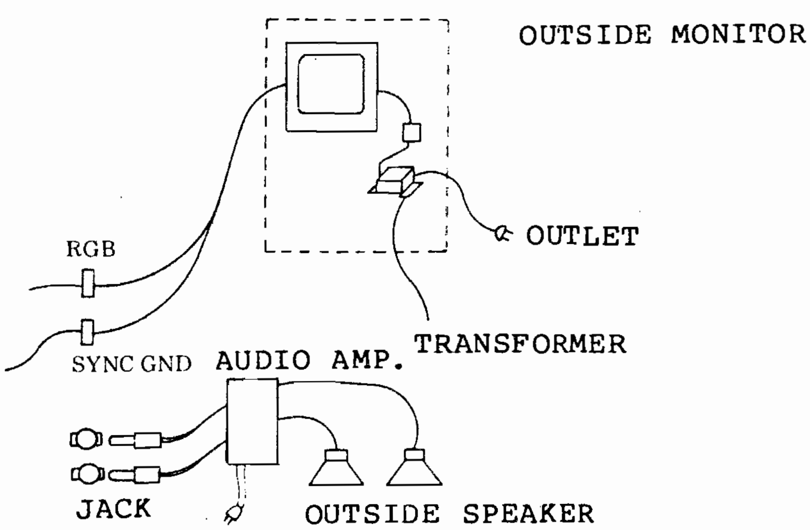
- The outside monitor can be connected via the RGB output/SYNC GND output terminals to the machine.
- For the outside monitor, be sure to make the connection from the secondary side via an appropriate transformer.

When using the outside speakers, use a power amplifier via the lineout terminals (sound output jacks).

CAUTION : The IC board will be damaged if the AC power is directly applied without using the transformer.

- Make sure that the video cable is no more than 10 meters long so as not to deteriorate the quality of the on-screen graphics.





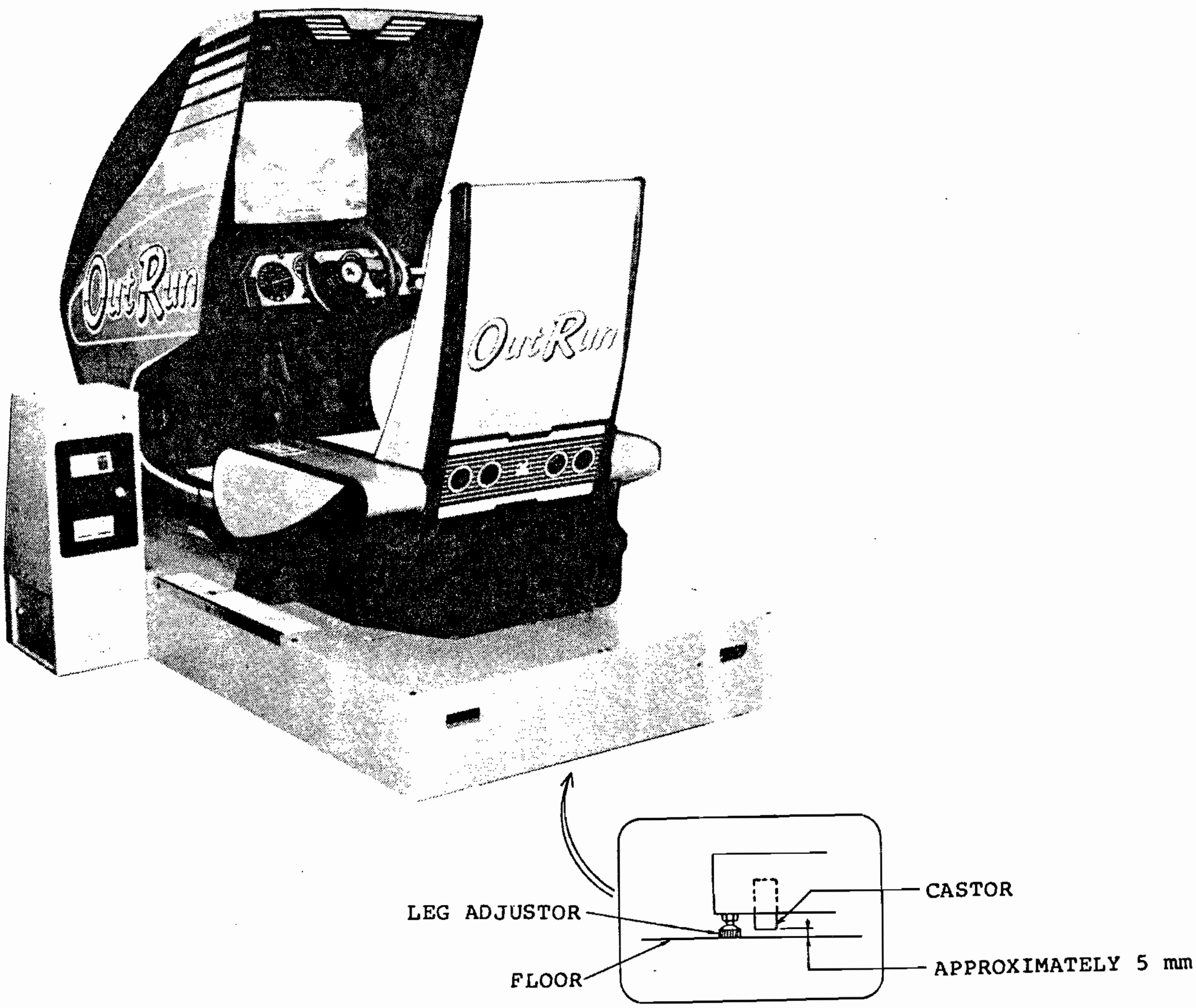
9. PRECAUTIONS FOR INSTALLING AND MOVING THE MACHINE

PRECAUTIONS FOR INSTALLATION

The machine is provided with 4 castors and 4 adjusters. When installing, make sure that the clearance between the floor and the castor is approximately 5 mm (if the clearance is insufficient, the machine will move and thus create a dangerous situation).

MOVING THE MACHINE

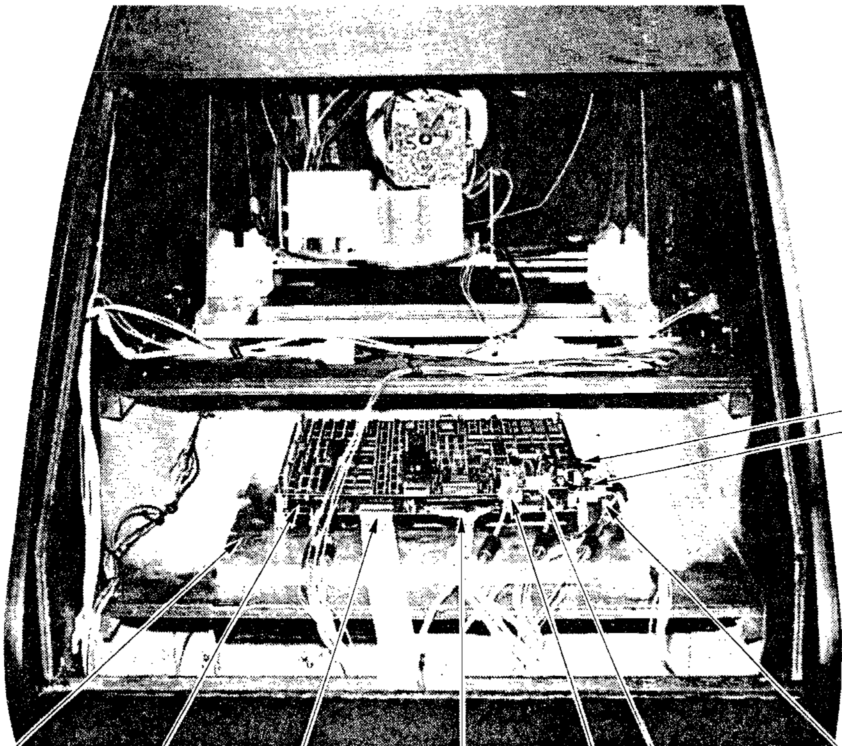
The machine weighs approximately 300 kg. (661 lbs.) and as such, you should lift up the leg adjuster when moving it about on the floor.



10. REMOVING THE GAME BOARD

By opening the cabinet's service door (KR-1078), the board which is located in the shield case as shown below, can be seen.

As shown below, the board can be adjusted after removing the shield cover by taking off the 2 M4 screws. Bring the base forward and remove the board by taking off the 2 M4 screws which secure the spring.

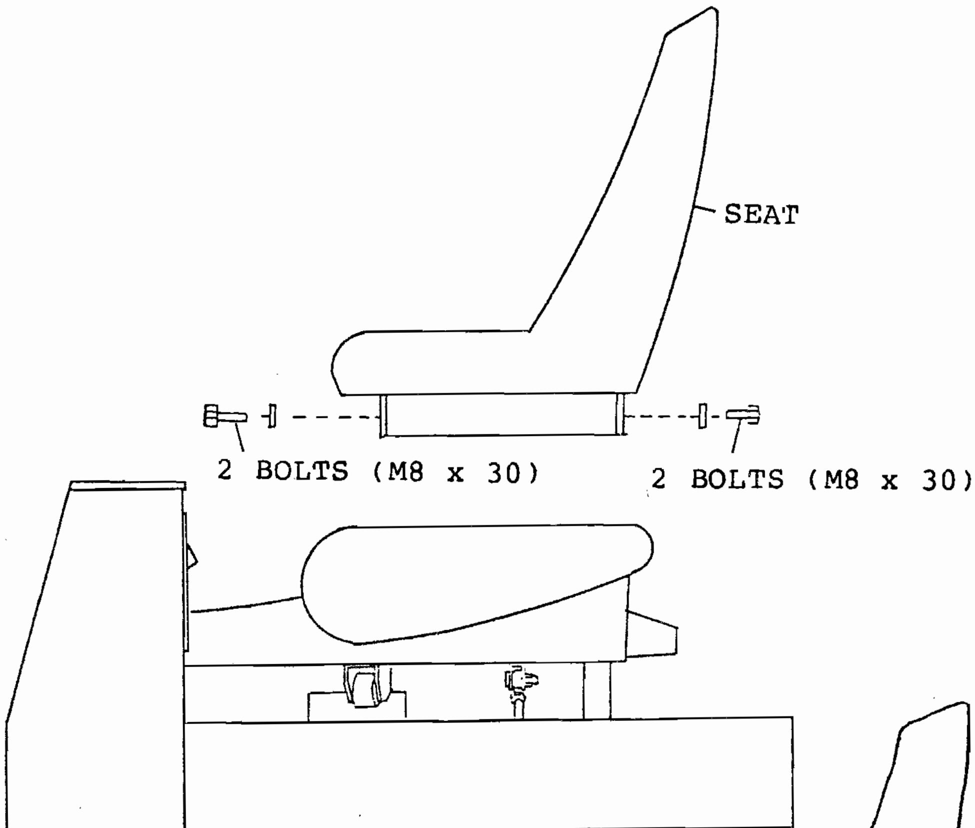


11. MOVING THE SEAT POSITION

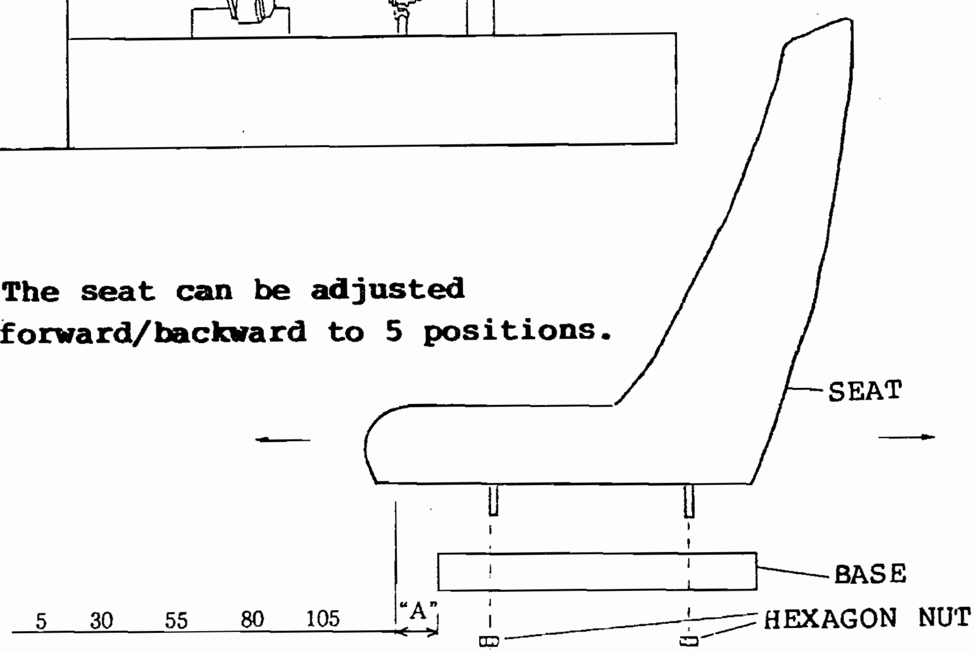
The machine's seat position can be adjusted in the following procedure:

PROCEDURE

1. Remove a total of 4 bolts, i.e., 2 in the front and 2 in the rear, which secure the seat.
2. Carefully disconnect the connector from the bottom seat.
3. Make forward or backward adjustments of the seat by removing the 4 hexagon nuts.



The seat can be adjusted forward/backward to 5 positions.

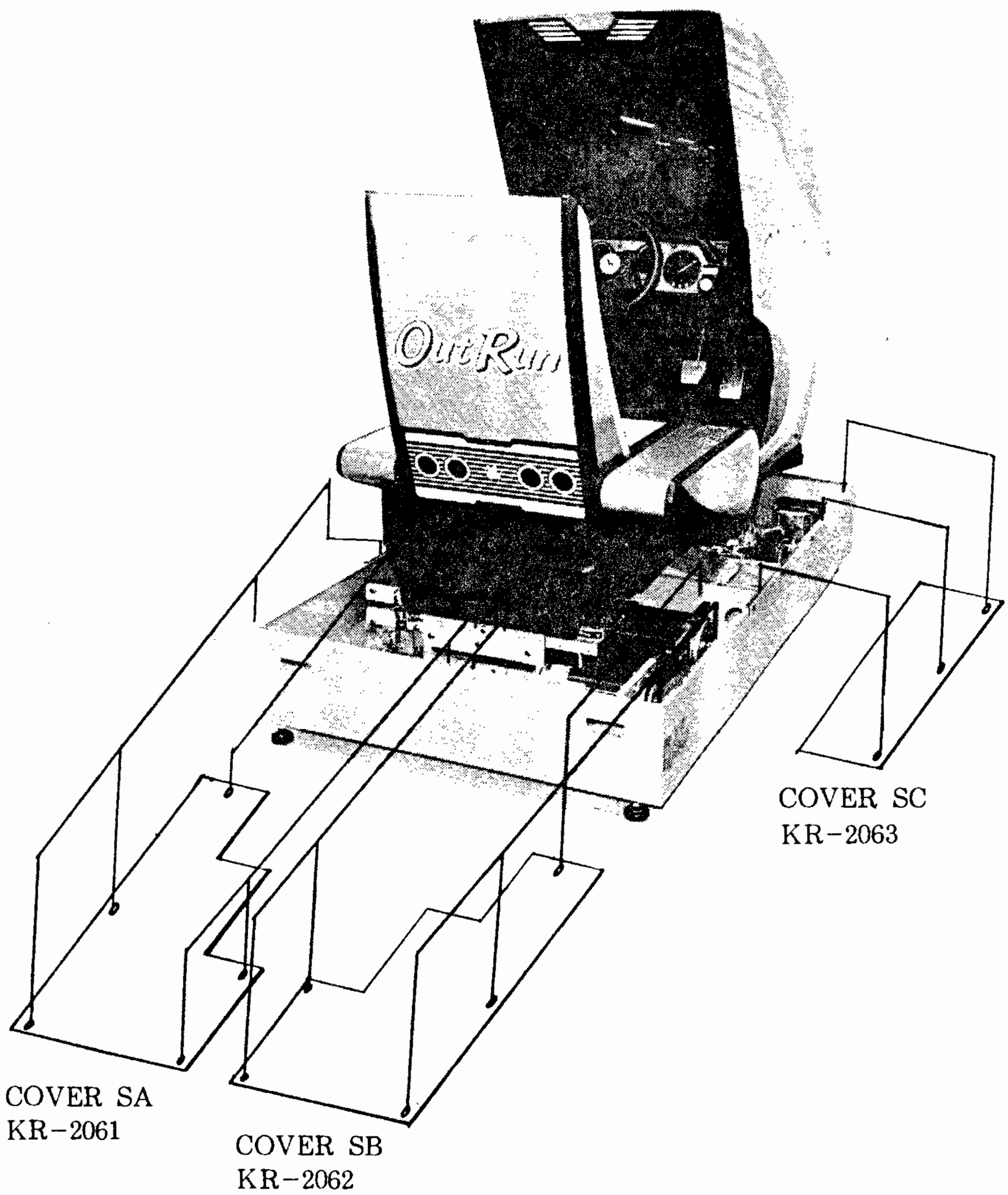


Forward/backward adjustments can be made to 5 positions.

12. OPENING THE MECHANISM BASE

- o The inside of the mechanism base contains the moving mechanism which is a special feature of the machine and the power supply unit.

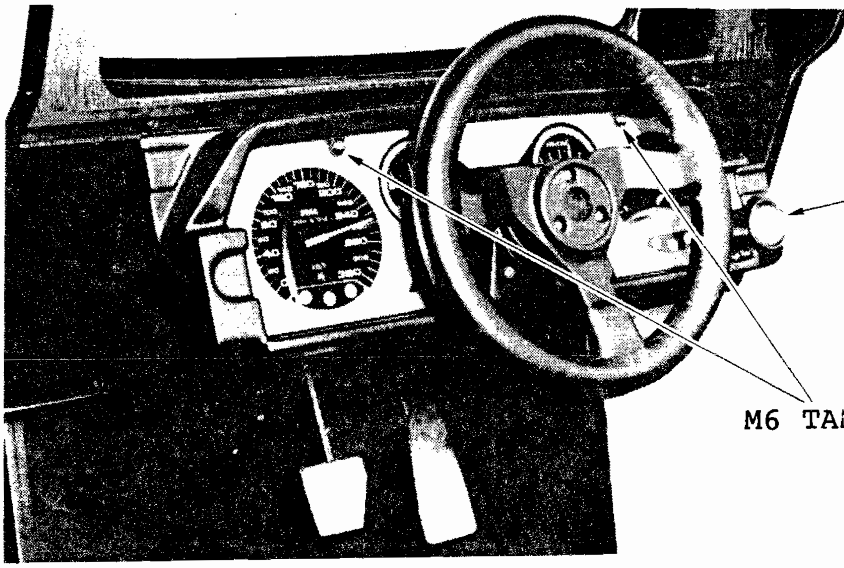
- o Open COVER SC when servicing of the power supply is required. The cover can be removed by taking off the 3 M5 x 10 TAMPERPROOF SCREWS.
- o When servicing the mechanism, open COVER SA and SB by taking off the 5 M5 x 10 TAMPERPROOF SCREWS for each cover.



13. DISASSEMBLING AND ADJUSTING THE HANDLE UNIT

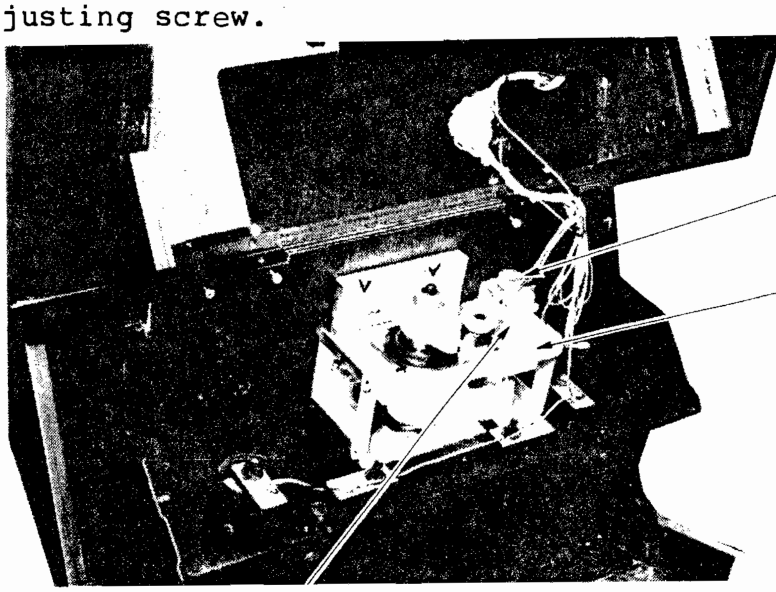
To open the dashboard, take off the 2 M6 TAMPERPROOF screws.

After doing this, the lamp, spring replacements and steering adjustments can be made.



STEERING ADJUSTMENTS

1. Release the 2 adjusting screws of the potentiometer bracket and perform the necessary adjustments by changing its gear position, making sure that the variable is within the allowable extent as shown below, and then retighten the adjusting screw.



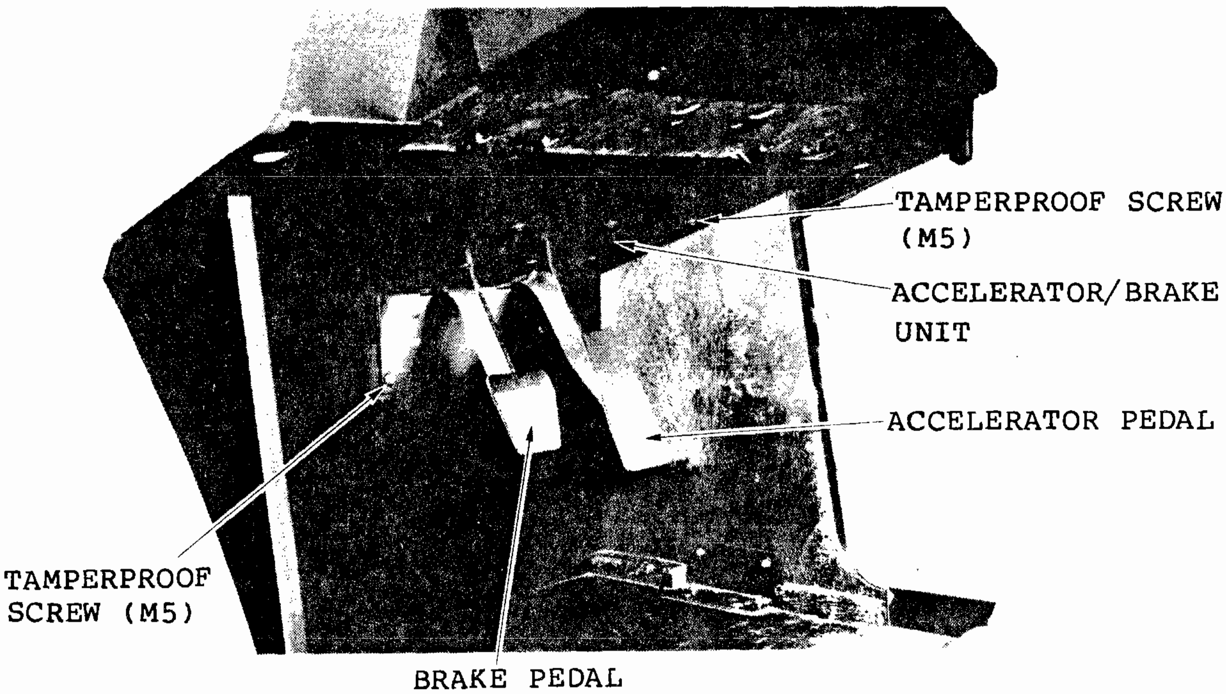
Standard value ⇓

Minimum (33) ← | 7CH 7DH 7EH 7FH 80H 81H 82H 83H 84H | → Maximum (CB)

← Allowable adjustment range →

14. DISASSEMBLING AND ADJUSTING THE ACCELERATOR AND BRAKE

To remove the accelerator/brake unit, take off the 6 M5 TAMPERPROOF SCREWS.

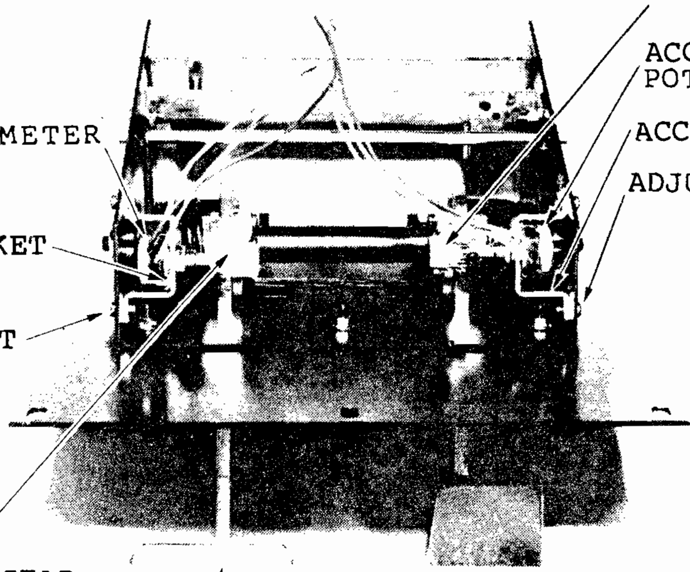


15. ADJUSTING THE ACCELERATOR/BRAKE POTENTIOMETER

① Display the SELF-TESTING MODE screen shown on page 30.

② Release the adjustment screws, move the bracket, and make adjustments so that the variable becomes 20H when the accelerator/brake is released and returns to its original position.

③ Even after the above procedure has been followed, if the variable is not within the allowable range, then slightly turn the gear to make an adjustment.



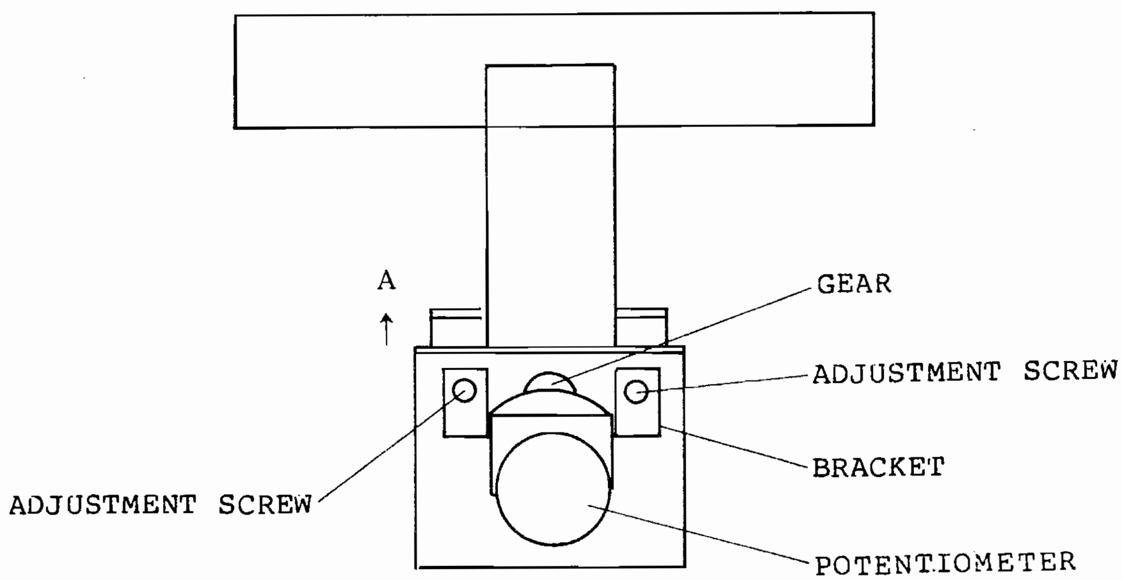
ACCELERATOR	Minimum (20)	Standard ⇩ 20H	Maximum (fully open) (D5)
Brake	(20)		(CB)

1CH 1DH 1EH 1FH 20H 21H 22H 23H 24H →

← Allowable adjustment range →

16. ADJUSTING THE ROLLING MOVEMENT

Display the SELF-TESTING MODE screen (see page 31). A variable within the 80H (± 8) allowable range is normal. In SELF-TESTING, when the test item is set for MOVING, the cabinet will move, so pay special attention to this point.



ADJUSTING PROCEDURE

1. When the cabinet stops in the middle, release the 2 adjustment screws, move the bracket to the right and the left, and make the fine adjustments as well as the backlash adjustments to the gear.

2. When the variable can not be made within the allowable range by performing the fine adjustments, move the bracket in the direction of A and then turn the gear.

Standard value

⇩

Minimum ← (3C)	7CH	7DH	7EH	7FH	80H	81H	82H	83H	84H	→ Maximum (C1)

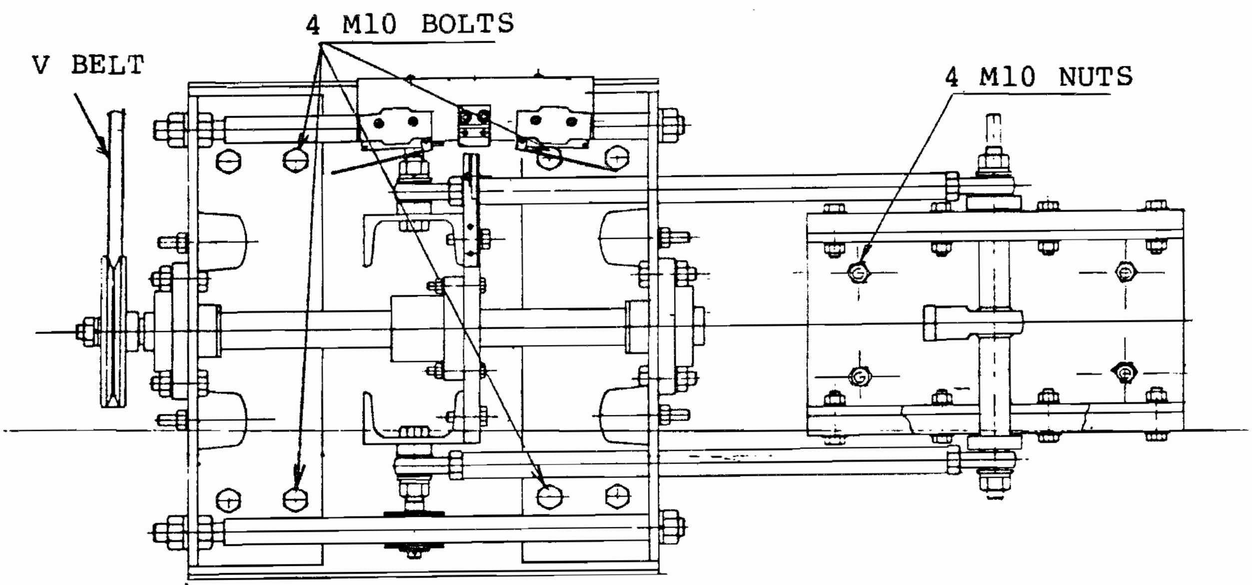
← Allowable adjustment range →

17. REMOVING THE MECHANISM UNIT

The mechanism unit can be removed as follows:

CAUTION: To avoid any danger when removing the mechanism unit, do not enter the cabinet or lean against it.

REMOVING THE MECHANISM



① Remove the V BELT (see REPLACING THE BELT).

② Remove the limit switch connector.

③ Release the shoulder screw of the rod end.
(Be sure only to release the screw and do not take it off.)

④ Take off the 4 nuts and 4 bolts shown above.

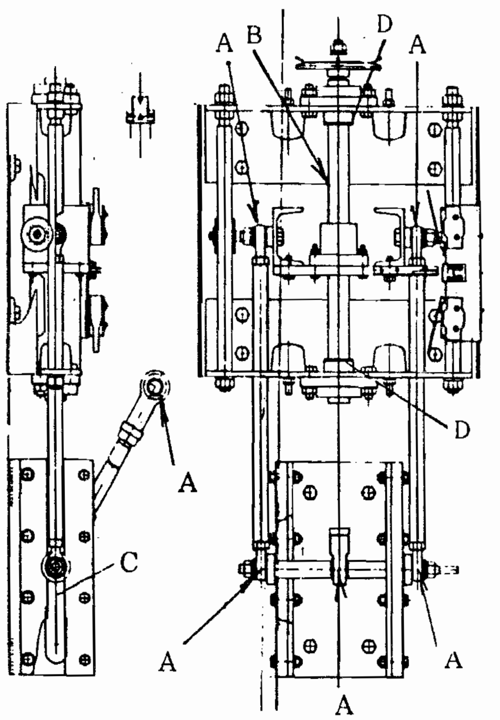
⑤ Take off the rod end shoulder screw and move the cabinet to the left. (When the shoulder screw is removed, the cabinet becomes free. Pay particular attention so as not to allow unauthorized persons access to it.)

The mechanism unit can be removed by following the above procedure as described in ①~⑤ :

18. LUBRICATION

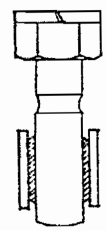
Periodical greasing of the mobile parts are required.

Apply grease in accordance with the following instructions:



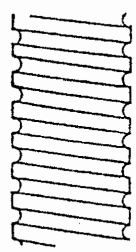
Lubricate the 11 points as per the illustration.

Ⓐ ROD END



Apply grease to the surfaces of the inner ring (diagonally lined portion as per the illustration).

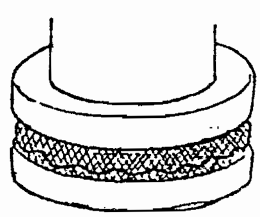
Ⓑ BALL SCREW



Apply grease to the screw surfaces by hand or a spatula.

Ⓒ Apply grease to the upper/lower white guides as illustrated.

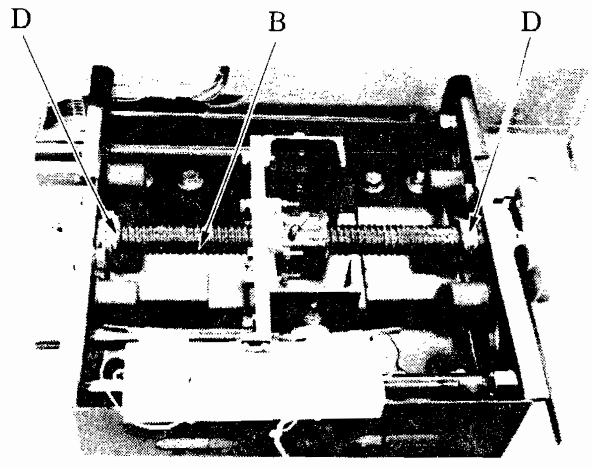
Ⓓ THRUST BEARING



Apply grease in between the upper and lower collars (the diagonally lined portion as illustrated).

DETAILS of Ⓑ and Ⓓ

Apply grease thoroughly, particularly on the Ⓓ portion, to the thrust bearing's steel balls, by using the nozzle container type of spray grease.



When lubricating, so as not to cause any malfunction, make sure that no foreign matter such as dust, etc. gets into the grease.

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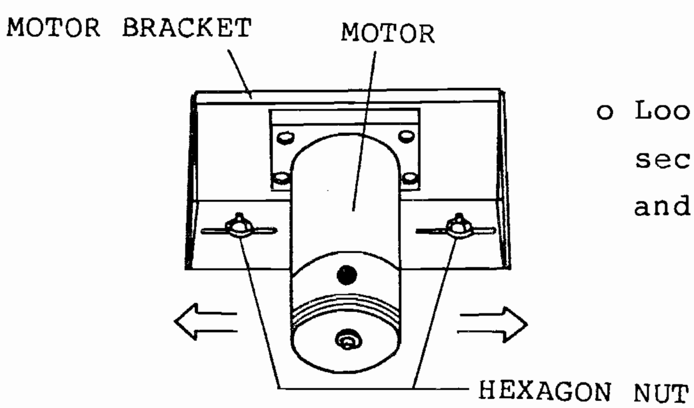
19. ADJUSTMENT AND REPLACEMENT OF THE V BELT

Power for this machine is transmitted by the V belt. If it slips or is torn, it will not work properly and also is very dangerous. Reqularly check as to the tension, wear, and deterioration of the belt and make the necessary adjustments and replacements well in advance of the actual need to do so.

ADJUSTMENT OF THE BELT TENSION

* Before making adjustments of the belt tension, be sure that the power is off.
  Incorrect belt tension may cause damage to the shaft and bearing, or result in an earlier than usual wearing out of the belt, so making correct adjustments is of the utmost importance. For belt tension adjustments, make sure that the belt has an approximate slack of 10 mm when applying a forefinger against the middle part in between the 2 pulleys.

* Adjusting the V BELT



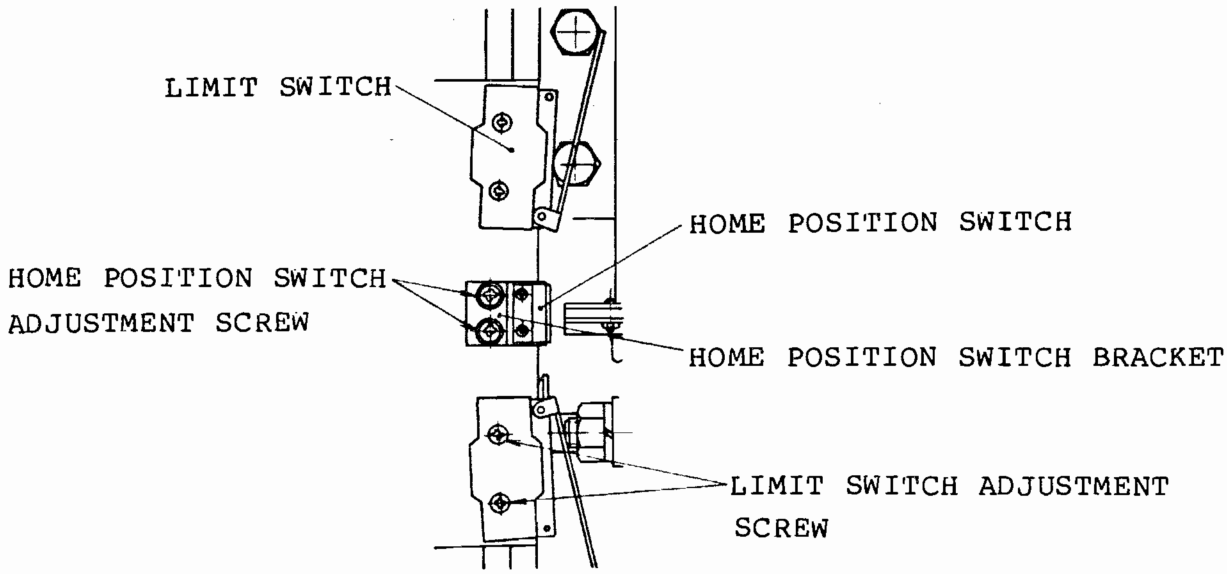
o Loosen the hexagon nut which secures the motor bracket and the motor.

BELT REPLACEMENT

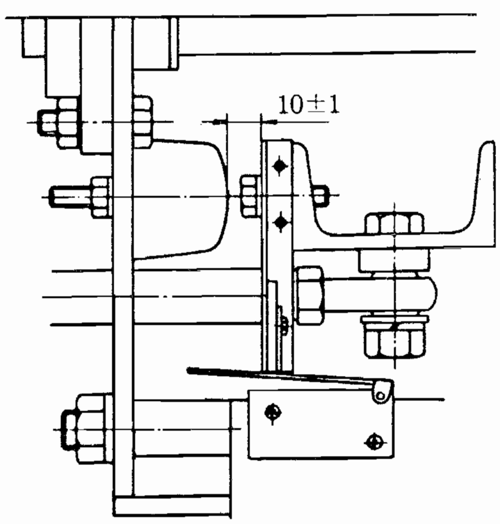
When belts whose surfaces come into contact with the pulleys become worn or damaged, they must be replaced.

20. ADJUSTING THE LIMIT SWITCH AND THE HOME POSITION SWITCH

Make adjustments to the limit switch and the home position switch by using the following procedure:

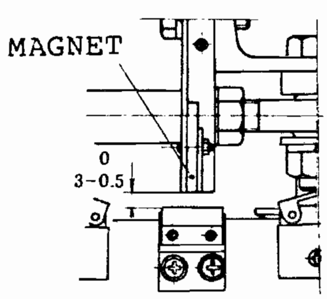


ADJUSTING THE LIMIT SWITCH



Releasing the adjustment screw causes the LIMIT SWITCH to slide and match the specified position. Turn the pulley by hand and make adjustments in a manner so that as illustrated, the switch works at the 10 $\pm$ 1 mm position in front of the rubber stopper.

ADJUSTING THE HOME POSITION SWITCH

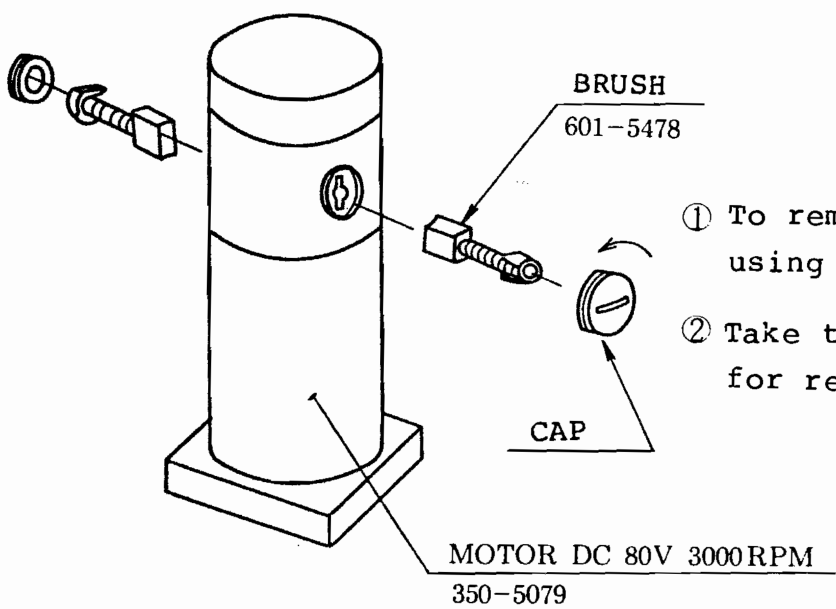


Turn the adjustment screw so as to cause the switch together with the bracket to slide, and make adjustment so that the clearance between the magnet and the home position switch becomes $3^{+0}_{-0.5}$ mm.

21. REPLACING THE MOTOR BRUSH



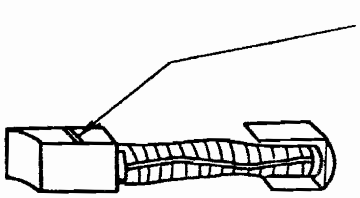
Replace the motor brush as shown below.
(Normally, replacement once in six months is recommended.)



① To remove the cap, turn it by using a screwdriver, etc.

② Take the brush (601-5478) out for replacement.

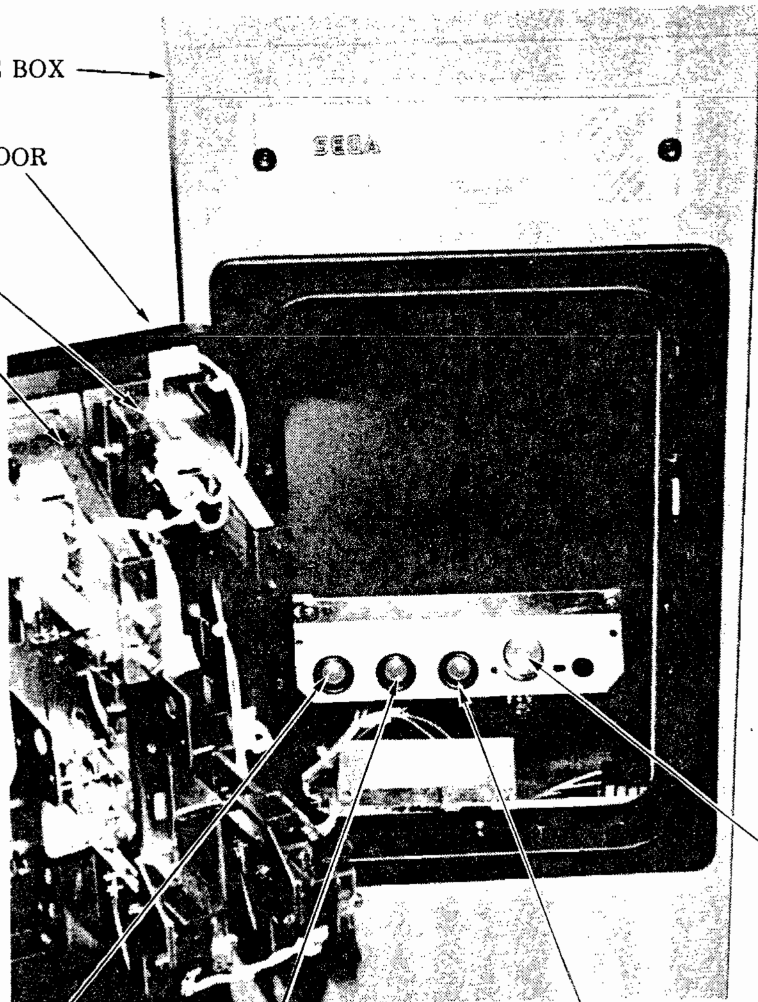
BRUSH (601-5478)



- o Replace the brush when it is worn out up to this line.
- o Make sure that both the 2 brushes are replaced.

22. ADJUSTMENT OF THE SERVICE SWITCH

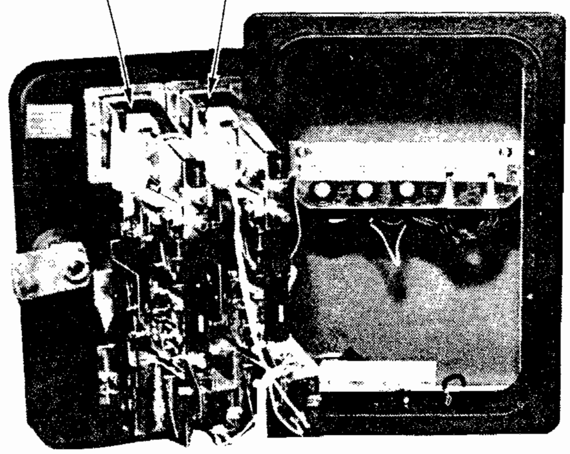
The layout as shown below can be viewed by opening the coin chute door.



23. DIP SWITCH SETTING

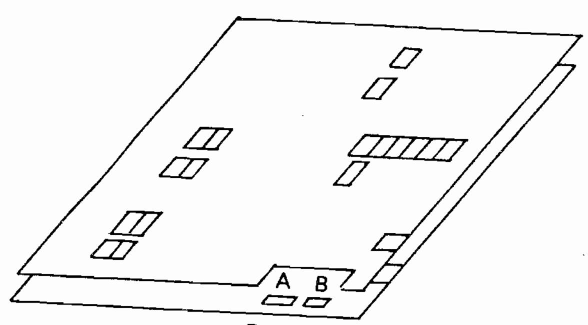
GAME PRICE SETTING — DIP SW A

OPTION	1	2	3	4	5	6	7	8
1 COIN 1 CREDIT	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1 COIN 2 CREDITS	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
1 COIN 3 CREDITS	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
1 COIN 4 CREDITS	ON	ON	OFF	OFF	ON	ON	OFF	OFF
1 COIN 5 CREDITS	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
1 COIN 6 CREDITS	ON	OFF	ON	OFF	ON	OFF	ON	OFF
2 COINS 1 CREDIT	OFF	ON	ON	OFF	OFF	ON	ON	OFF
3 COINS 1 CREDIT	ON	ON	ON	OFF	ON	ON	ON	OFF
4 COINS 1 CREDIT	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
2 COINS 3 CREDITS	ON	OFF	OFF	ON	ON	OFF	OFF	ON
2 COINS 1 CREDIT 3 COINS 2 CREDITS 5 COINS 3 CREDITS 6 COINS 4 CREDITS	OFF	ON	OFF	ON	OFF	ON	OFF	ON
2 COINS 1 CREDIT 4 COINS 3 CREDITS	ON	ON	OFF	ON	ON	ON	OFF	ON
1 COIN 1 CREDIT 2 COINS 2 CREDITS 3 COINS 3 CREDITS 4 COINS 4 CREDITS 5 COINS 6 CREDITS	OFF	OFF	ON	ON	OFF	OFF	ON	ON
1 COIN 1 CREDIT 2 COINS 2 CREDITS 3 COINS 3 CREDITS 4 COINS 5 CREDITS	ON	OFF	ON	ON	ON	OFF	ON	ON
1 COIN 1 CREDIT 2 COINS 3 CREDITS	OFF	ON	ON	ON	OFF	ON	ON	ON
FREE PLAY	ON	ON	ON	ON	ON	ON	ON	ON
	COIN SW #1				COIN SW #2			

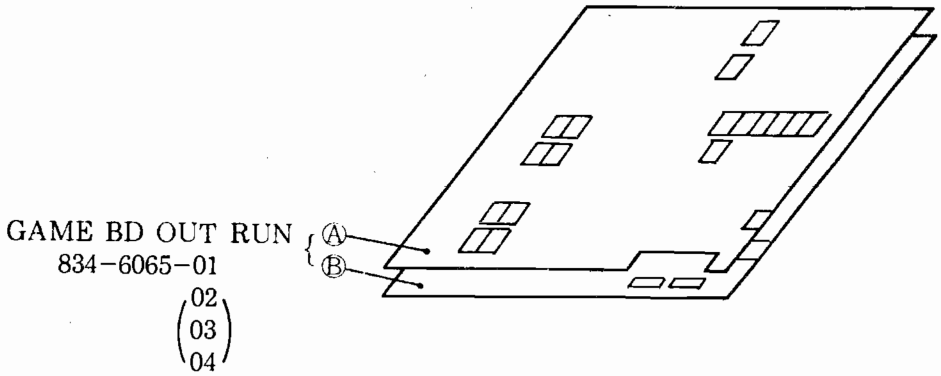


GAME OPTION SETTING — DIP SW B

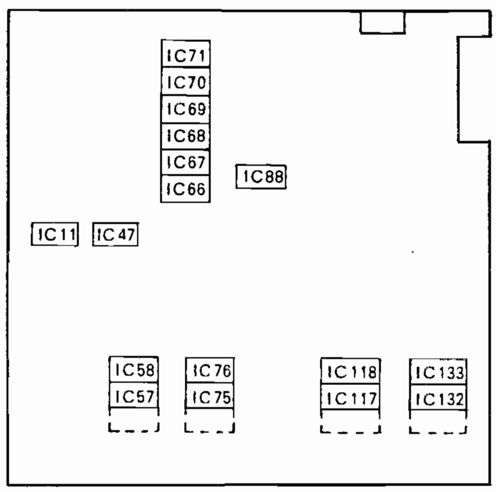
OPTION		1	2	3	4	5	6	7	8
TYPE	MOVING	OFF	OFF						
	UP COCKPIT	ON	OFF						
	MINI UP	OFF	ON						
	NOT USED	ON	ON						
ADVERTISE SOUND	OFF			OFF					
	ON			ON					
NOT USED									
TIME ADJ.	NORMAL					OFF	OFF		
	EASY					ON	OFF		
	HARD					OFF	ON		
	HARDEST					ON	ON		
NUMBER OF ENEMY	NORMAL							OFF	OFF
	EASY							ON	OFF
	HARD							OFF	ON
	HARDEST							ON	ON



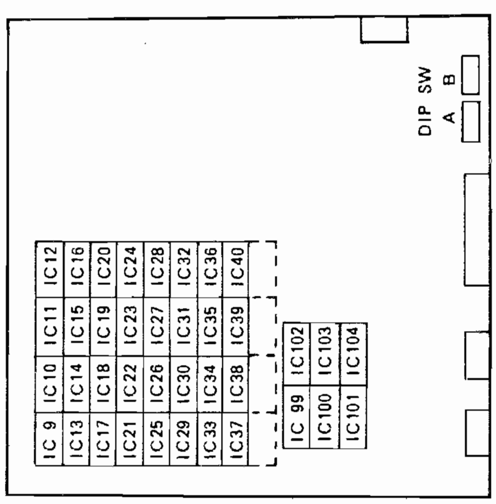
24. EPROM/ROM LOCATIONS



Ⓐ CPU BD OUT RUN 837-6063-01 (02)



Ⓑ VIDEO BD OUT RUN 837-6064-01 (02)



ONE TIME ROM				
GAME BD			834-6065-01	834-6065-02
CPU BD			837-6063-01	837-6063-02
Road Character		IC 11	OPR-10185	*
		IC 47	OPR-10186	
Sub Program		IC 76	EPR-10327	EPR-10327A
		IC 75	EPR-10328	EPR-10328A
		IC 58	EPR-10329	EPR-10329A
		IC 57	EPR-10330	EPR-10330A
Main Program		IC 133	EPR-10331	EPR-10380 A
		IC 132	EPR-10332	EPR-10381 A
		IC 118	EPR-10333	EPR-10382 A
		IC 117	EPR-10334	EPR-10383 A
Sound	P	IC 88	EPR-10187	*
	Data	IC 71	OPR-10188	
		IC 70	OPR-10189	
		IC 69	OPR-10190	
		IC 68	OPR-10191	
		IC 67	OPR-10192	
		IC 66	OPR-10193	
VIDEO BD			837-6064-01	837-6064-01
Object		IC 9	OPR-10194	*
		IC 13	OPR-10195	
		IC 17	OPR-10196	
		IC 21	OPR-10197	
		IC 25	OPR-10198	
		IC 29	OPR-10199	
		IC 33	OPR-10200	
		IC 37	OPR-10201	
		IC 10	OPR-10203	
		IC 14	OPR-10204	
		IC 18	OPR-10205	
		IC 22	OPR-10206	
		IC 26	OPR-10207	
		IC 30	OPR-10208	
		IC 34	OPR-10209	
		IC 38	OPR-10210	
		IC 11	OPR-10212	
		IC 15	OPR-10213	
		IC 19	OPR-10214	
		IC 23	OPR-10215	
		IC 27	OPR-10216	
		IC 31	OPR-10217	
		IC 35	OPR-10218	
		IC 39	OPR-10219	
		IC 12	OPR-10221	
		IC 16	OPR-10222	
		IC 20	OPR-10223	
		IC 24	OPR-10224	
		IC 28	OPR-10225	
		IC 32	OPR-10226	
		IC 36	OPR-10227	
		IC 40	OPR-10228	
Scroll		IC 104	OPR-10230	
		IC 103	OPR-10231	
		IC 102	OPR-10232	
		IC 101	OPR-10266	
		IC 100	OPR-10267	
		IC 99	OPR-10268	

P : PROGRAM

MASK ROM				
GAME BD			834-6065-03	834-6065-04
CPU BD			837-6063-01	837-6063-02
Road Character		IC 11	OPR-10185	*
		IC 47	OPR-10186	
Sub Program		IC 76	EPR-10327	EPR-10327A
		IC 75	EPR-10328	EPR-10328A
		IC 58	EPR-10329	EPR-10329A
		IC 57	EPR-10330	EPR-10330A
Main Program		IC 133	EPR-10331	EPR-10380 A
		IC 132	EPR-10332	EPR-10381 A
		IC 118	EPR-10333	EPR-10382 A
		IC 117	EPR-10334	EPR-10383 A
Sound	P	IC 88	EPR-10187	*
	Data	IC 71	OPR-10188	
		IC 70	OPR-10189	
		IC 69	OPR-10190	
		IC 68	OPR-10191	
		IC 67	OPR-10192	
		IC 66	OPR-10193	
VIDEO BD			837-6064-02	837-6064-02
Object		IC 9	MPR-10371	*
		IC 13	MPR-10372	
		IC 10	MPR-10373	
		IC 14	MPR-10374	
		IC 11	MPR-10375	
		IC 15	MPR-10376	
		IC 12	MPR-10377	
		IC 16	MPR-10378	
Scroll		IC 104	OPR-10230	
		IC 103	OPR-10231	
		IC 102	OPR-10232	
		IC 101	OPR-10266	
		IC 100	OPR-10267	
		IC 99	OPR-10268	

* SAME AS THE PREVIOUS COLUMN.

25. SELF-TESTING

The main purposes of these tests are to check the operations of the game boards, to find the defects if any, to adjust the monitor colors properly, and to make sure the sounds are produced satisfactorily. It is also performed to indicate the assignments of the dip switches, check bookkeeping functions, etc.

KIND OF TESTS

1) Memory Test:	To check the EPROM programs and the map area of the RAMs.
2) Input Test:	To test the operation of the coin switch, shift lever, handle/accelerator, brake, start switch, service switch, etc.
3) Output Test:	To test the operation of the lamps.
4) Motor Test:	To check the limit switches and to make adjustments to the machine's rolling function.
5) Sound Test:	To check the quality of the sounds produced by the PCB and the video disc, and to adjust the balance of the speakers.
6) CRT Test:	To check if the colors on the monitor are displayed correctly.
7) Dip Switch Assignment:	To indicate each dip switch assignment.
8) Bookkeeping:	To indicate information data on average score, average play time, etc.
9) Backup RAM Clear:	When the power is turned off, a backup battery system automatically takes over, thus allowing the continuous storage of all bookkeeping data. Using this item will enable you to clear said data.
10) EXIT	See page 34

1. TEST OPERATION

(1) Push the test switch and Fig. 1 will be shown on the screen.

(2) Select CONTINUE or INDIVIDUAL by using the START button.

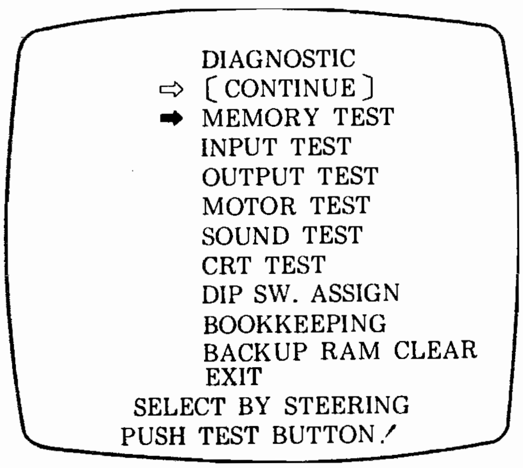


FIG. 1

(3) Move the steering to bring the arrow to the desired position.

[CONTINUE]:

o Bring the arrow sign to CONTINUE first, and move it to one of the tests to start. Push the TEST button, and the tests will be performed in order, one by one, starting from the test where the arrow was originally set to EXIT.

o If the START button is pushed when the arrow is at CONTINUE, it will change to INDIVIDUAL. Pushing it again returns it to CONTINUE.

[INDIVIDUAL]:

o If the arrow is at INDIVIDUAL first and brought to a certain test which you want to conduct, only that test is performed by pushing the TEST button.

(4) When each test is finished, push the TEST button. In the case of CONTINUE, push the TEST button, and it will automatically go into the following test. If the TEST button is pushed in the case of INDIVIDUAL, FIG. 1 is shown. If you want to end the test mode at this time, bring the arrow to EXIT and push the TEST button again, and it will return to the ADVERTISEMENT mode.

2. TEST ITEMS

(1) Memory Test:

DIAGNOSTIC
MEMORY TEST
** ROMS TEST **

IC 118	IC 117	IC 58
IC 133	IC 132	IC 76
IC 57		
IC 75		

** RAMS TEST **

IC 114	IC 115	IC 63
IC 129	IC 130	IC 65
IC 64	IC 95	IC 52
IC 62	IC 92	IC 51
IC 55	IC 54	
IC 73	IC 72	

Indication of "GOOD" following the IC No. means the IC is all right. Push the TEST button to proceed to the following test item:

(2) Input Test

DIAGNOSTIC
INPUT TEST

COIN #1	START
COIN #2	SERVICE
LOW GEAR	
HIGH GEAR	

HANDLE RIGHT LEFT	80H	(± 4H)
BRAKE	20H	
ACCEL	20H	

← HANDLE →

7CH 7DH 7EH 7FH [80H] 81H 82H 83H 84H

Standard value

← ACCELERATOR →

1CH 1DH 1EH 1FH [20H] 21H 22H 23H 24H

Standard value

- o Operate the dip switches. When "ON" is indicated at the right side of the corresponding item on the screen, it is OK.

- o If the data value increases when pressure is applied to the accelerator's or brake's pedal, it tests out satisfactorily.

- o When the tests are ended, push the TEST button.

(3) Output Test

```
DIAGNOSTIC
OUTPUT TEST

*  START LAMP
*  BRAKE LAMP
```

If the start LAMP lights up, it is functioning properly. Push the TEST button when the testing has been completed.

(4) Motor Test

Adjustment of each limit switch, and adjustment of the rolling movement.

```
                 DIAGNOSTIC
                 MOTOR TEST

LEFT LIMIT                       DATA  **H
RIGHT LIMIT                      DATA  **H
CENTER                           DATA  **H



   MOTOR POSITION               80H  (±8H)
```

The value with an asterisk (*) represents the one automatically checked during the warm-up time.

For adjustment, see page 17

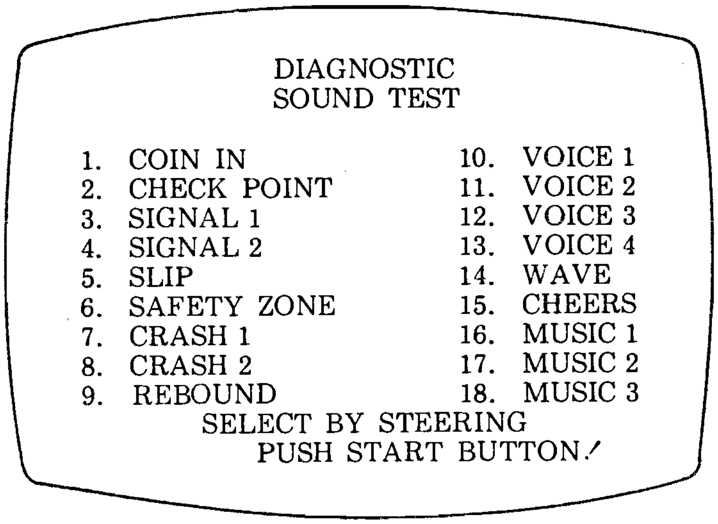
The above screen display is for the moving cabinet.

← MOTOR POSITION →

78H 79H 7AH 7BH 7CH 7DH 7EH 7FH [80H] 81H 82H 83H 84H 85H 86H 87H 88H

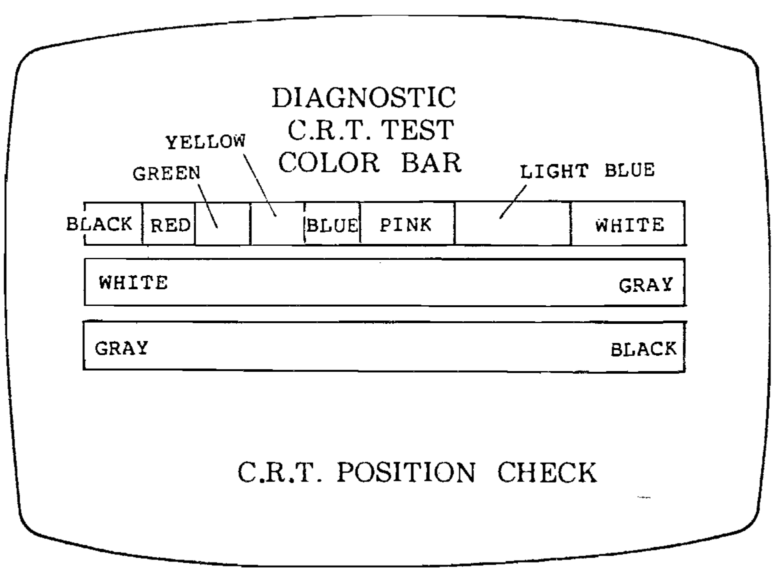
Standard value

(5) Sound test



When the test has been completed, push the TEST button.

(6) C.R.T. Test



When the test has been completed, push the TEST button.

(7) DIP SWITCH ASSIGNMENTS

DIAGNOSTIC

DIP SWITCH ASSIGNMENT

	1	2	3	4	5	6	7	8
DIP SW. A	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
DIP SW. B	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Present Setting of the Dip Switches.

A
1234 COIN SW#1 1 COIN 1 CREDIT
5678 COIN SW#2 1 COIN 1 CREDIT

Coin Switch Setting.

B
12 TYPE MOVING
3 ADVERTISE SOUND ON
56 TIME ADJ. NORMAL
78 NUMBER OF ENEMY NORMAL

1	2	
OFF	OFF	MOVING TYPE
ON	OFF	UP COCKPIT
OFF	ON	MINI UP
ON	ON	NOT USED

Adjustment of the game time.

The appearance frequency of the other cars

ON Sound is emitted at the time of GAME OVER.
OFF No sound is emitted at the time of GAME OVER.

(8) Bookkeeping

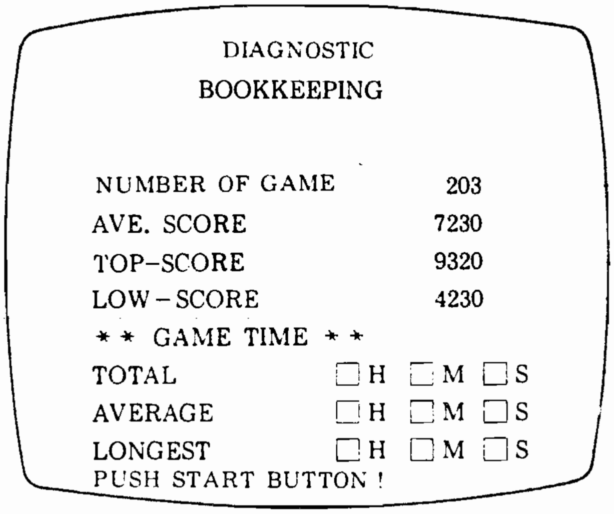
DIAGNOSTIC
BOOKKEEPING

COIN CHUTE #1	0	Usage frequency of coin chute 1
COIN CHUTE #2	0	Usage frequency of coin chute 2
COIN CREDIT	0	Number of coin credits
SERVICE CREDIT	0	Usage frequency of service switch
TOTAL CREDIT	0	Number of credits
TOTAL TIME	□H □M □S	Operating time (hour-minute-second)

PUSH START BUTTON!

* Only the data that falls within the range of up to 999H 59M 59S can be memorized.

The above screen indication is for testing.
When the tests are finished, push the START button and the following will be shown:

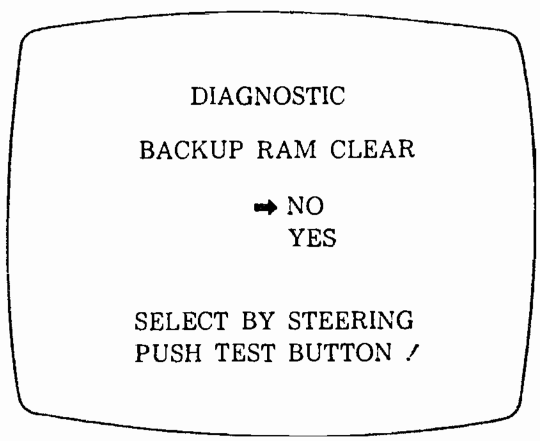


Every time the START button is pressed, the bookkeeping test display is repeated.

o When the tests are ended, push the TEST button.

(9) Backup RAM Clear:

To clear the data, bring the arrow to "YES" and push the TEST button.



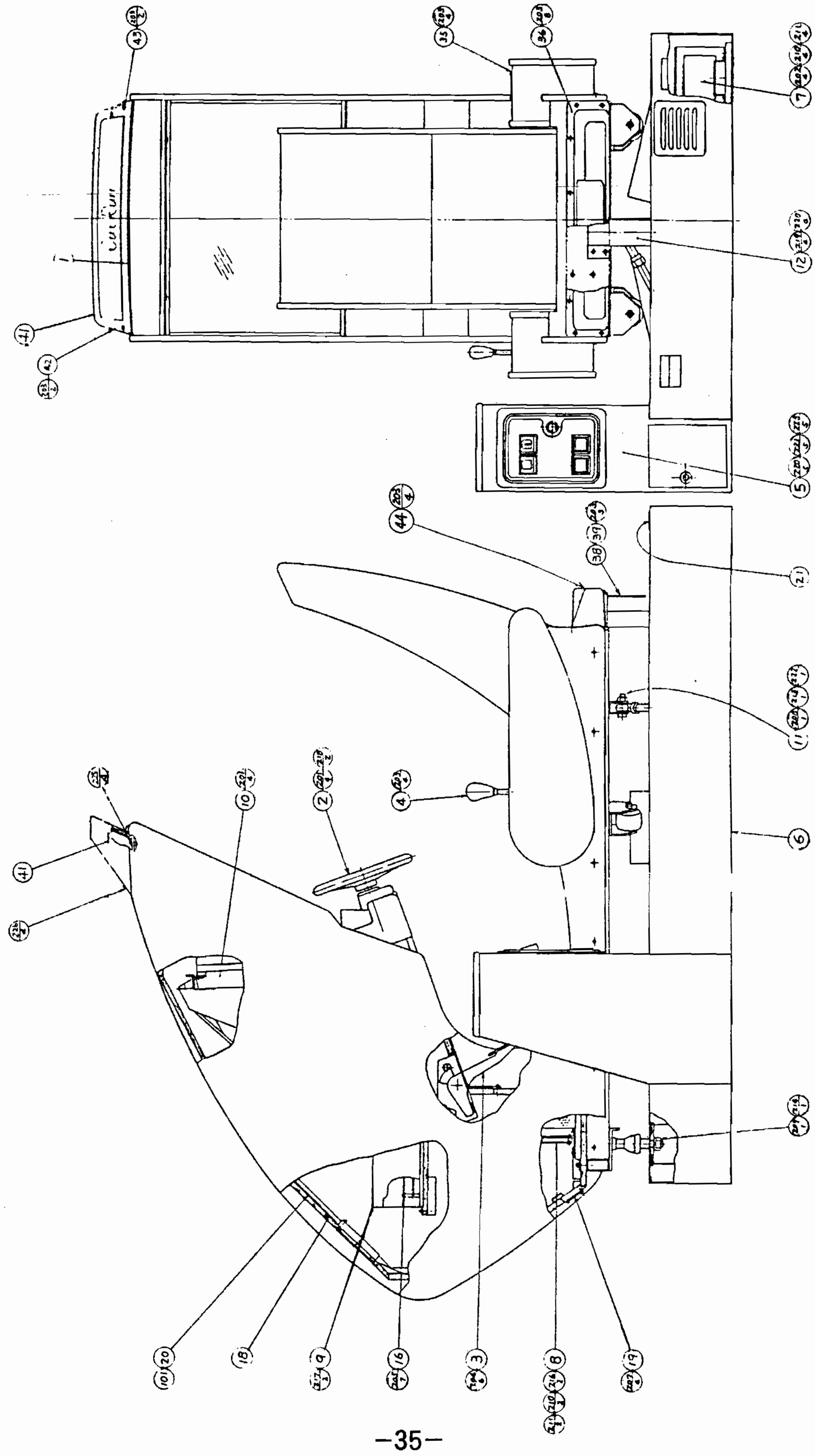
When the test is finished, push the TEST button to end the test (in the case of "INDIVIDUAL," however, the test mode returns to Fig. 1 first).

(10) EXIT

In the state as shown in Fig. 1, operate the steering to bring the arrow to EXIT and push the TEST button. The self-testing will then end and return to the ADVERTISEMENT mode.

26. PARTS LIST

① TOP ASSY OUT RUN MOVING STANDARD (KR−00003) (D−1/3)



① TOP ASSY OUT RUN MOVING STANDARD (KR-00003) (D-2/3)

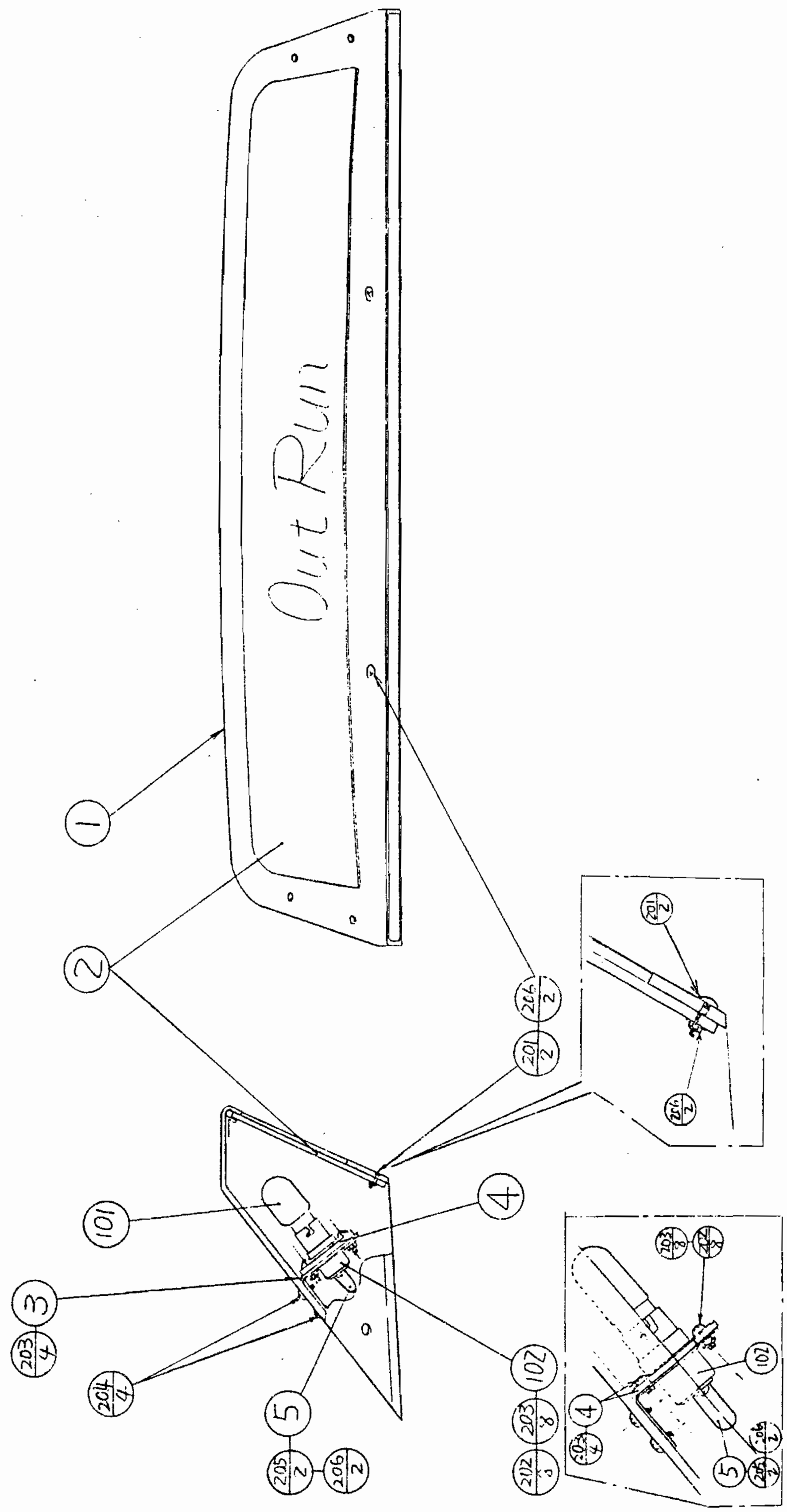
ITEM No.	PART No.	DESCRIPTION
1	KR-10003	ASSY MOVING CABINET
2	KR-1100	ASSY HANDLE
3	KR-1200	ASSY ACCEL & BRAKE
4	KR-1301	ASSY SHIFT LEVER S
5	KR-14003	ASSY COIN CHUTE BOX
6	KR-20003	ASSY BASE & MECHANISM
7	KR-40003	ASSY POWER SUPPLY & AMP
8	KR-41001	ASSY SW RGLTR & DRIVE BD
9	KR-0044	ASSY GAME BD BASE
10	KR-0021	ASSY CLR DSPL 20 TYPE
11	KR-0009	SHAFT ROD END
12	KR-0010	ANTIROLL SHAFT
13	KR-0020X	SHIPPING PLATE S
14	KR-0012	SHIPPING PLATE B
15	80738X	TAG FOR SHIPPING
16	834-6065-01,02,03,04	GAME BD OUT RUN
	932-03	SEGA OUT RUN MOVING
18	81979	STICKER SERVICE INSTR
19	80027XY	NAMEPLATE ELEC SPEC
20	421-6412-01	ADJUST INSTR SHEET OUT RUN
21	421-6241	STICKER DANGER
22	421-5800-45	ORIGNAL SEAL OUT RUN
23	420-5315-01	OWNER'S MANUAL OUT RUN STANDARD
24	80207Y	STICKER SEGA INFORMATION
25	83602	STICKER SERIAL NO. INFORMATION
28	SGB-1035X	KEY BAG
29	SGB-2675	POLYETHYLENE BAG 240×370
30	SGM-3743	POLYETHYLENE COVER 1400×2100×1700
34	421-6482-01	STICKER CAUTION
35	KR-0033	HOLE COVER
36	KR-0034	BODY REAR
37	82789	STICKER DANGER HIGH VOLTAGE
38	KR-0036	MUDGUARD
39	KR-0037	HOLDER MUDGUARD
40	422-0159-02	PLAY INSTR PLATE OUT RUN
41	KR-0038	ASSY HEADER
42	KR-0042	BRACKET RIGHT
43	KR-0043	BRACKET LEFT
44	KR-0045	NUMBER PLATE (CALIFORNIA)
101	601-0769	STAPLE MAX #3
201	000-0516	M SCR PH W/FS M5×16
202	000-0525	M SCR PH M5×25
203	008-0410	TMP PRF SCR TH M4×10
204	0008-0516	TMP PRF SCR TH M5×16
205	010-0306-F	S-TITE SCR PH W/F M3×6
206	000-0620	M SCR PH M6×20
	000-0514-FS	M SCR PH W/FS M5×14
207	046-0001	SCR NAIL THH STAINLESS 1.5×16
208	059-0017	HEX NUT M12
209	059-0020	HEX NUT P=1.5 M18

① TOP ASSY OUT RUN MOVING STANDARD (KR-00003) (D-3/3)

ITEM No.	PART No.	DESCRIPTION
210	060	FLT WSHR M5
211	061-0005	SPR WSHR M5
212	061-0006	SPR WSHR M6
213	069-0030	SPR WSHR M12
214	061-0018	SPR WSHR M18
216	000-0530	M SCR PH M5×30
217	000-0414-FS	M SCR PH W/FS M4×14
218	029-0079	TMP PRF SCR BH M6×35
219	030-0830-B	HEX BOLT BLK M8×30
220	061-0008	SPR WSHR M8
221	030-0820	HEX BOLT M8×20
222	0690-0020	FLT WSHR M12
223	060-0008	FLT WSHR M8
224	009-0825	TMP PRF SCR BH M8×25
	390-5139	LAMP 140V 10W
	KR-1111X	EXT SPRING
	509-5161	SW MICRO TYPE
	220-5130	* VOL CONT B-5K OHM
	244-115	GREASE W/SPATULA
	244-118	GREASE SPRAY TYPE 300mℓ W/No. 22LE
	350-5085	V BELT
	390-0116	LAMP WEDGE BASE TYPE 14V 0.24
	601-5478	BRUSH FOR MOTOR
	540-0018	DRIVER FOR TMP PRF SCR M4
	540-0006-01	WRENCH FOR TMP PRF SCR M5
	540-0007-01	WRENCH FOR TMP PRF SCR DUAL TYPE M5
	540-0015	WRENCH FOR TMP PRF SCR DUAL TYPE M6
	540-0009-01	WRENCH FOR TMP PRF SCR M8
225	000-0414	M SCR PH W/S M4×14
226	005-3820	W SCR RH 3.8×20

* Note : VOL CONT refers to the Potentiometer.

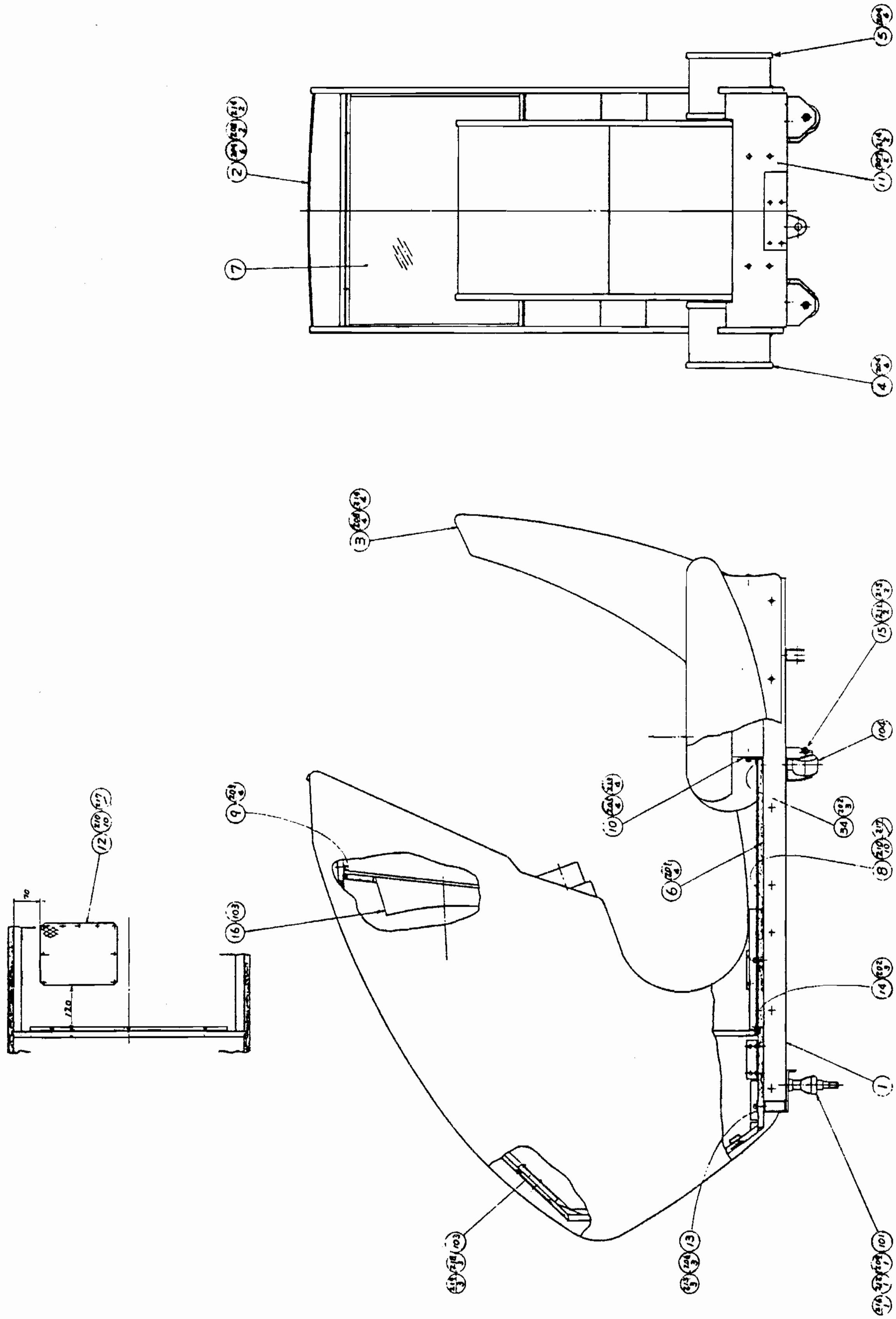
② ASSY HEADER (KR-0038) (D-1/2)



② ASSY HEADER (KR−0038) (D−2/2)

ITEM No.	PART No.	DESCRIPTION
1	KR−0039	HEAD COVER
2	423−0032	DESIGN PLATE OUT RUN
3	KR−0040	L BRACKET
4	KR−0041	LAMP HOLDER PLATE
5	834−5536	ASSY SSR BOARD
6	SGB−3760−38	WIRE HARN HEADER
	211−0096	CONN PLUG AMP 2P YELLOW
	211−0095	CONN PLUG AMP 2P ORANGE
	211−0167	TERM LUG RND ID5
	211−0041	CONN PIN AMP
101	390−5139	LAMP 140V 10W
102	214−0105	BULB SKT T−19
201	031−0410−B	CARRIAGE BOLT M4×10
202	051−0003	FLG NUT M3
203	001−0308	M SCR PH M3×8
204	008−0410	TMP PRF SCR TH M4×10
205	000−0420	M SCR PH M4×20
206	051−0004	FLG NUT M4

③ ASSY MOVING CABINET (KR-10003) (D-1/3)



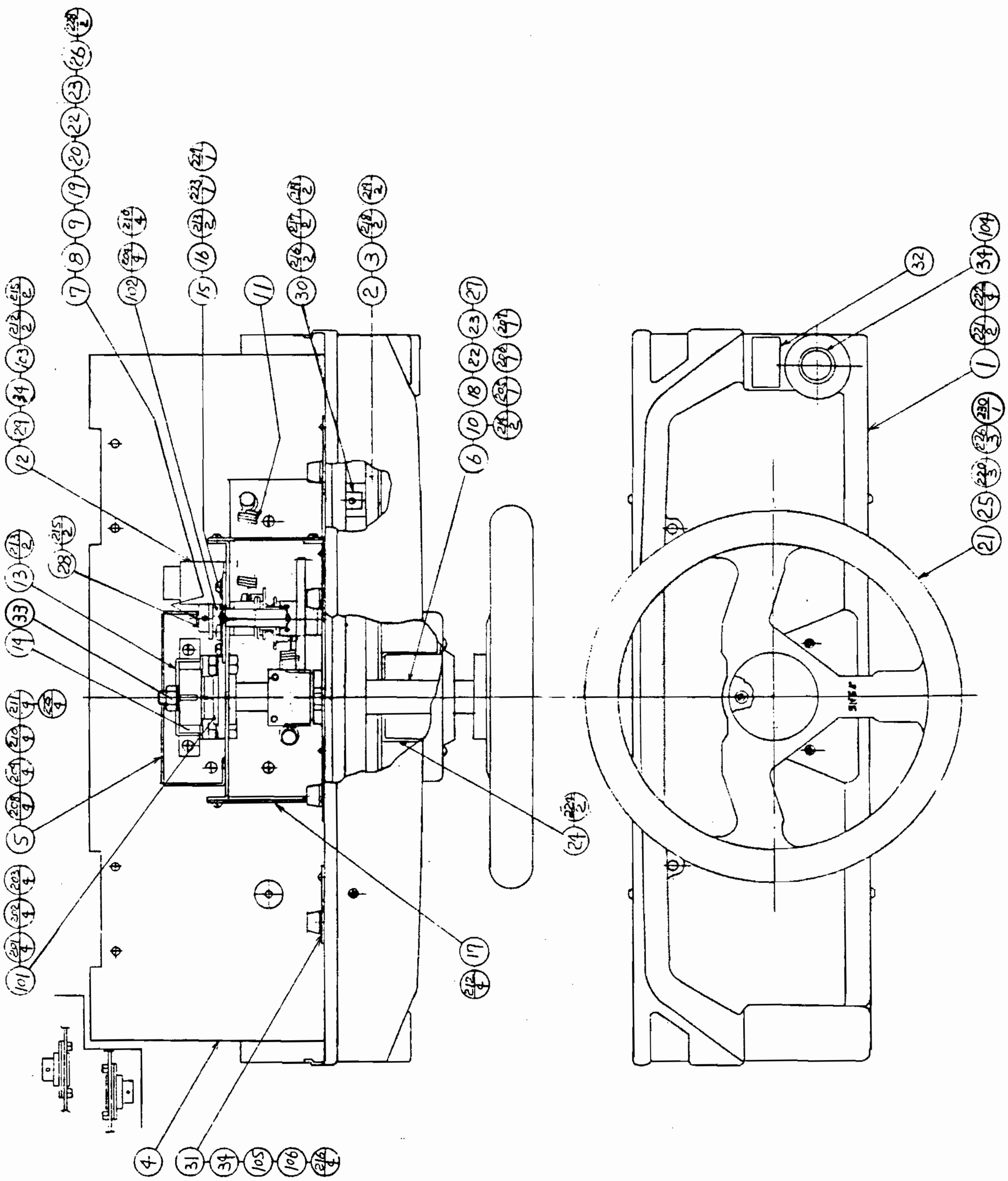
③ ASSY MOVING CABINET (KR−10003) (D−2/3)

ITEM No.	PART No.	DESCRIPTION
1	KR−1089X	MOVING FRAME
2	KR−1074	ASSY SUB CABINET
3	KR−1082	ASSY SEAT
4	KR−1084	BODY LEFT
5	KR−1085	BODY RIGHT
6	KR−1086	FLOOR BOARD
7	KR−1088	WINDOW GLASS
8	KR−1090	FLOOR MAT
9	KR−1091	HOLDER WINDOW GLASS
10	KR−1020	BRACKET
11	KR−1097	RETAINER PLATE
12	KR−1095	FLOOR MAT
13	KR−1053	WASHER PLATE
14	KR−1057	MAT FITTING
15	KR−1058	SHAFT ROLLER
16	KR−1096	TV MASK 20
17	280−0419	HARNESS LUG
18	SGB−3760−43	WIRE HARN RGB
	212−5034	CONN FEN 6P
	211−0044	CONN CAP AMP 2P WHITE
	211−0060	CONN CAP AMP 3P WHITE
	211−0005	CONN CLAMP LOCK
19	SGB−3740−19	WIRE HARN AC FAN
	211−0046	CONN PLUG AMP 2P YELLOW
	601−0460	PLASTIC TIE BELT 85mm
20	SGB−3740−59	WIRE HARN FAN EXT
	211−0117	CONN CAP AMP 2P YELLOW
	211−0096	CONN PLUG AMP 2P YELLOW
21	SGB−3760−2	WIRE HARN DEM COIL EXT
	211−0117	CONN CAP AMP 2P YELLOW
	211−0094	CONN CAP AMP 2P RED
	601−0460	PLASTIC TIE BELT 85mm
22	SGB−3740−33	WIRE HARN LAMP EXT
	211−0085	CONN PLUG AMP 2P BROWN
	211−0080	CONN CAP AMP 2P BROWN
23	SGB−3760−3	WIRE HARN START EXT
	211−0100	CONN PLUG AMP 4P RED
	211−0121	CONN CAP AMP 4P RED
	601−0460	PLASTIC TIE BELT 85mm
24	SGB−3760−5	WIRE HARN SHIFT LEVER
	211−0043	CONN PLUG AMP 2P WHITE
	211−0044	CONN CAP AMP 2P WHITE
	601−0460	PLASTIC TIE BELT 85mm
25	SGB−3760−4	WIRE HARN 50P EXT
	211−5105	CONN FEM 50P
	211−0072	CONN CAP AMP 4P WHITE
	211−0082	CONN CAP AMP 4P BROWN
	211−0121	CONN CAP AMP 4P RED
	211−0081	CONN CAP AMP 3P BROWN
	211−0102	CONN PLUG AMP 4P YELLOW
	211−0044	CONN CAP AMP 2P WHITE
	211−5047	CONTACT
	211−0116	CONN CAP AMP 2P ORANGE

③ ASSY MOVING CABINET (KR-10003) (D-3/3)

ITEM No.	PART No.	DESCRIPTION
27	SGB-3760-30	WIRE HARN SOUND EXT
	212-5076	CONN FEM 4P (MOLEX)
	211-0072	CONN CAP AMP 4P WHITE
	211-0005	CONN CLAMP LOCK
28	SGB-3760-31	WIRE HARN EARTH
	211-0167	TERM LUG RND ID 5
29	SGB-3760-32	WIRE HARN LEFT SP
	211-0094	CONN PLUG AMP 2P RED
30	SGB-3760-33	WIRE HARN RIGHT SP
	211-0095	CONN PLUG AMP 2P ORANGE
31	SGB-3740-60	WIRE HARN 20P EXT
	211-0046	CONN CAP AMP 6P WHITE
	211-0119	CONN CAP AMP 3P ORANGE
	211-0120	CONN CAP AMP 3P YELLOW
	211-5088	CONN FEM 20P
	211-5047	CONTACT
32	SGB-3740-24	WIRE HARN CRT
	211-0096	CONN PLUG AMP 2P YELLOW
	600-5133	CABLE & CONN 300L
33	SGB-3740-32	WIRE HARN HANDLE VR EXT
	211-0099	CONN PLUG AMP 3P YELLOW
	211-0120	CONN CAP AMP 3P YELLOW
	211-0041	CONN PIN AMP
	211-0042	CONN SOCKET AMP
34	KR-1099	MAT FITTING
35	SGB-3760-37	WIRE HARN HEADER EXT B
	211-0096	CON PLUG AMP 2P YELLOW
	211-0117	CONN CAP AMP 2P YELLOW
101	100-5034	LINK BALL (THK RB118)
102	260-0018	FAN MOTOR AC 100V
103	601-0769	STAPLE MAX #3
104	601-5548	WHEEL ∅65×48
105	270-5016	FERRITE SLEEVE CORE
106	280-0425	CORD CLAMP ∅10
107	280-5008	CORD CLAMP ∅15
108	280-5009	CORD CLAMP ∅21
109	209-0023	CONN CLOSED END
110	601-0460	PLASTIC TIE BELT 85mm
201	000-420-FS	M SCR PH W/F & M4×20
202	005-3113-F	W SCR RH W/F 3.1×13
203	008-0416	TMP PRF SCR TH M4×16
204	008-0525	TMP PRF SCR TH M5×20
205	030-0610	HEX BLT M6×10
206	030-0625	HEX BLT M6×25
207	030-0820-B	HEX BLT BLK M8×20
208	030-0830-B	HEX BLT BLK M8×30
209	039-0023	HEX BLT P=1.5 M18×40
210	046-0001	SCR NAIL THH STNLS 1.5×16
211	059-0017	HEX NUT M12
212	060-0018	FLAT WSHR M18
213	061-0006	SPR WSHR M6
214	061-0008	SPR WSHR M8
215	069-0036	SPR WSHR M12
216	069-0034	SPR WSHR M18
217	244-063	DOUBLE FACE TAPE 20mm×50m/ROLL
218	000-0425	M SCR PH M4×25
219	061-0004	SPR WSHR M4

④ ASSY HANDLE (KR-1100) (D-1/3)



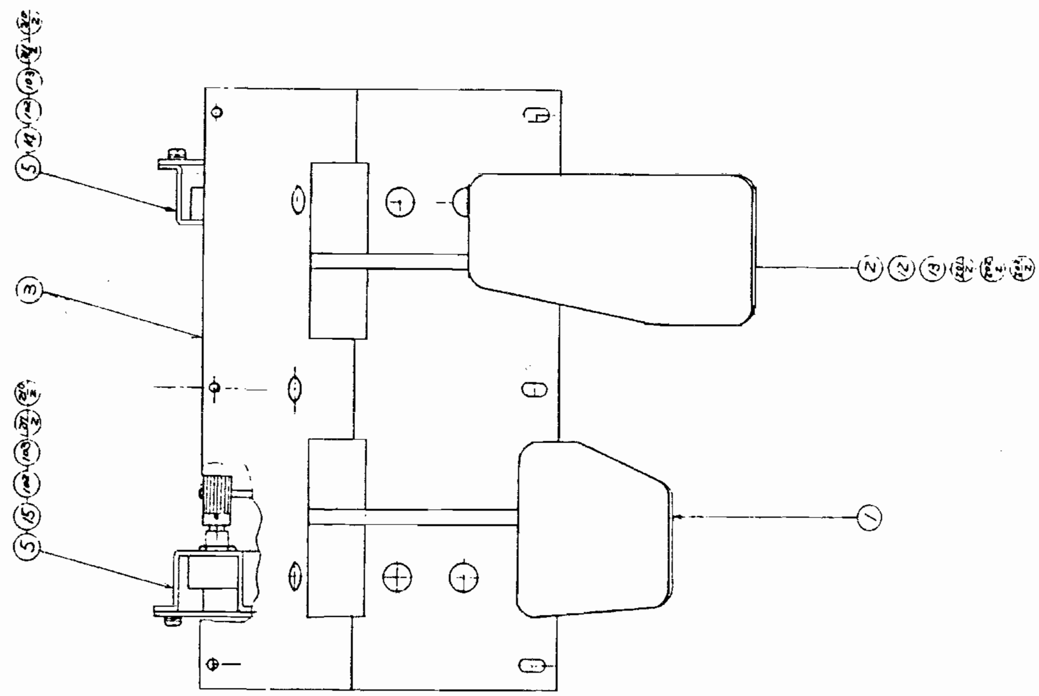
④ ASSY HANDLE (KR−1100) (D−2/3)

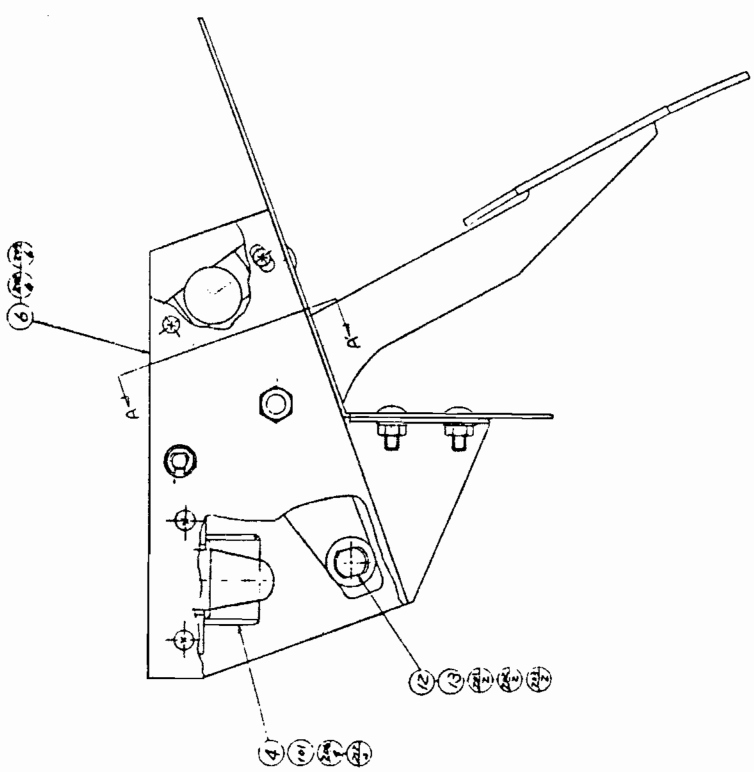
ITEM No.	PART No.	DESCRIPTION
1	KR−1101	FRONT PANEL
2	KR−1102	METER PANEL UPPER
3	KR−1103	DESIGN PLATE
4	KR−1104	WOODEN BASE
5	KR−1105X	HANDLE BASE
6	KR−1106Y	STEERING WHEEL SHAFT
7	KR−1107	SHAFT
8	KR−1108	ARM PLATE
9	KR−1109X	ARM BAR
10	KR−1110X	STEERING WHEEL STOPPER
11	KR−1111X	EXTENTION SPRING
12	KR−1112	VOLUME BRACKET
13	KR−1113	BUMPER BRACKET
14	KR−1114	BUMPER
15	KR−1115	STOPPER
16	KR−1116	RUBBER STOPPER
17	KR−1117	PLATE
18	KR−1118	COLLAR A
19	KR−119	COLLAR B
20	KR−1120	SPACER A
21	KR−1121X	STEERING HANDLE ⌀270
22	KR−1122	KEY A
23	KR−1123	KEY B
24	KR−1124	BRACKET
25	KR−1125X	HANDLE EMBLEM
26	KR−1126	GEAR A
27	KR−1127	GEAR B
28	KR−1128	GEAR C
29	KR−1129	GEAR D
30	KR−1140	BRACKET
31	TB−2007	LAMP HOLDER BOARD
32	117−5133	START PLATE
33	KR−1137	STOPPER WASHER
34	SGB−3740−4	WIRE HARN HANDLE
	211−0085	CONN PLUG AMP 2P BROWN
	211−0099	CONN PLUG AMP 3P YELLOW
	211−0100	CONN PLUG AMP 4P RED
	211−0041	CONN PIN AMP
	280−0472	FASTON RCPT 110
	601−0460	PLASTIC TIE BELT 85mm
101	100−5035	BEARING ⌀20
102	100−5015	BEARING ⌀10
103	220−5130	VOL CONT B−5K OHM
104	509−5053	PUSH BTN SWIT SWITCH GREEN W/LAMP
105	390−0116	LAMP WEDGE BASE TYPE 14V 0.24A
106	214−0081	WEDGE BASE SOCKET ASSY
107	280−0419	HARNESS LUG

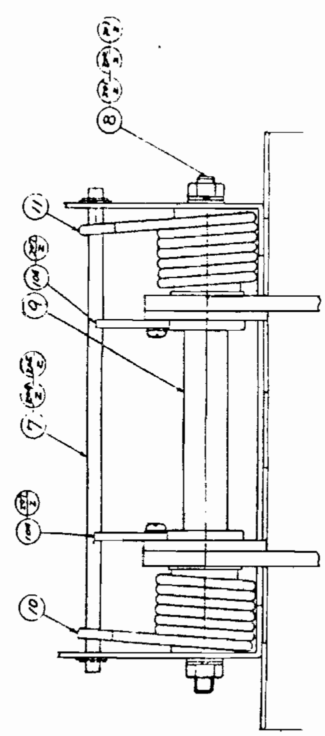
④ ASSY HANDLE (KR-1100) (D-3/3)

ITEM No.	PART No.	DESCRIPTION
201	030-0825	HEX BLT M8×25
202	060-0008	FLT WSHR M8
203	061-0008	SPR WSHR M8
204	054-0005	U NUT M5
205	050-0010	HEX NUT M10
206	069-0009	FLT WSHR 10.5-28×2
207	061-0010	SPR WSHR M10
208	000-516	M SCR PH M5×16
209	000-525	M SCR PH M5×25
210	060-0005	FLT WSHR M5
211	069-0001	FLT WSHR 5.5-20-1.6
212	000-0408-FS	M SCR PH W/FS M4×8
213	000-0510-FS	M SCR PH W/FS M5×10
214	028-0010	SET SCR HEX SKT CP M5×8
215	028-0014	SET SCR HEX SKT CP UNBR M4×4
216	005-3113-F	W SCR RH W/F 3.1×13
217	000-0416	M SCR PH M4×16
218	000-0425	M SCR PH M4×25
219	060-0004	FLT WSHR M4
220	029-0078	TMP PRF SCR BH M6×16
221	008-0416	TMP PRF SCR TH M4×16
222	008-0410	TMP PRF SCR TH M4×10
223	000-0510-S	M SCR PH W/S M5×10
224	010-0416-F	S-TITE SCR PH W/F M4×16
225	061-0005	SPR WSHR M5
226	061-0006	SPR WSHR M6
227	069-0022	FLT WSHR 5.5-14×1
228	028-0007	SET SCR HEX SKT CP UNBR M4×10
229	005-3113-F	W SCR PH W/F 3.1×13
230	008-0425	TMP PRF SCR TH M4×25

⑤ ASSY ACCEL & BRAKE (KR-1200) (D-1/2)



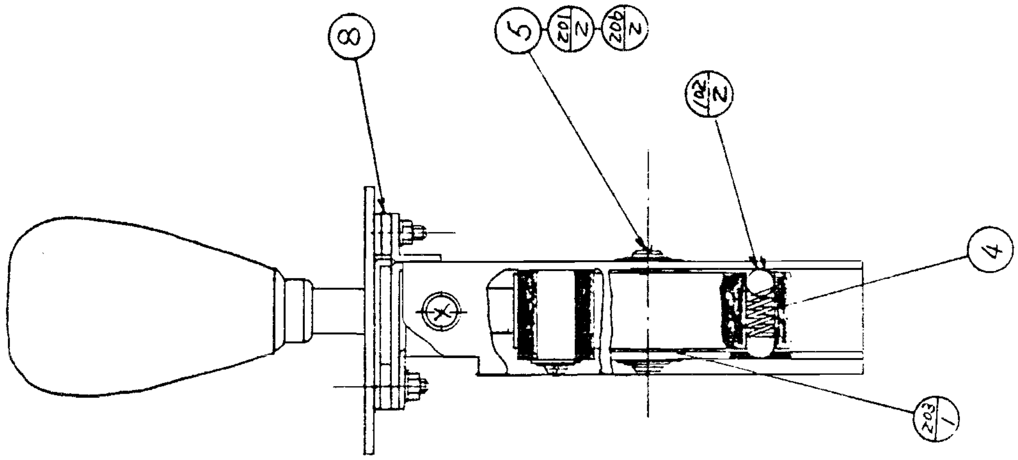


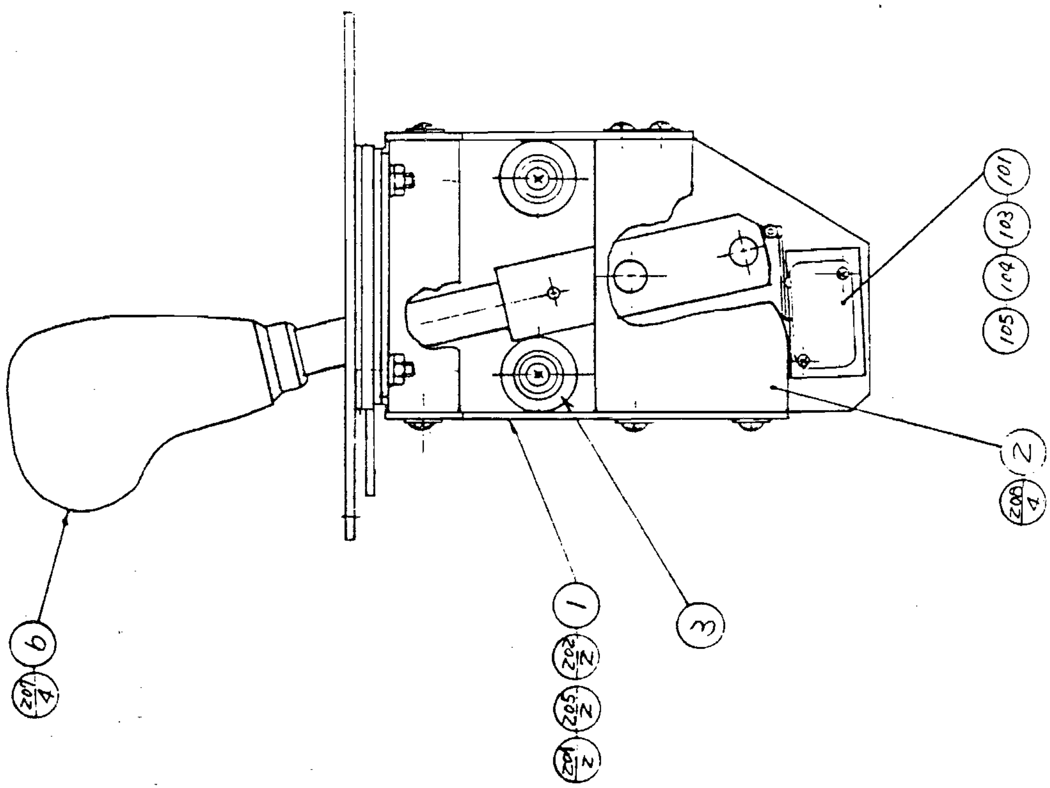


⑤ ASSY ACCEL & BRAKE (KR-1200) (D-2/2)

ITEM No.	PART No.	DESCRIPTION
1	KR-1021X	BRAKE PEDAL
2	KR-1202X	ACCELERATOR PEDAL
3	KR-1203	ACCEL & BRAKE BRACKET
4	KR-1204	STOPPER BRACKET
5	KR-1205	VR BRACKET
6	KR-1206	PEDAL BRACKET
7	KR-1207	SPRING SHOULDER
8	KR-1208	SHAFT BRAKE ACCEL
9	KR-1209	COLLAR
10	KR-1210	TORSION SPRING
11	KR-1211	TORSION SPRING
12	KR-1212	SHOULDER SCREW
13	KR-1213	BUMPER
14	SGB-3740-6	WIRE HARN ACCEL & BRAKE
	211-0045	CONN PLUG AMP 6P WHITE
	601-0459	TIE BELT 85mm
	211-0041	CONN PIN AMP
101	601-5564	STOPPER
102	220-5130	VOL CONT B-5KOHM
103	601-5423	GEAR 1/6
104	601-5410	GEAR 15 ⌀6
105	280-0425	CORD CLAMP ⌀10
201	050-0008	HEX NUT M8
202	061-0008	SPR WSHR M8
203	060-0008	FLT WSHR M8
204	060-0006	FLT WSHR M6
205	065-0005	E RING 5mm
205	000-0514-S	M SCR W/S M5×14
207	000-0408-S	M SCR DH W/S M4×8
208	031-0514	CRG BLT BLK M5×14
209	051-0005	FLG NUT M5
210	028-0002	SET SCR PH SPCL M3×6
211	000-0408-FS	M SCR PH W/FS M4×8
212	0540-0005	U-NUT M5

⑥ ASSY SHIFT LEVER S (KR-13001) (D-1/2)

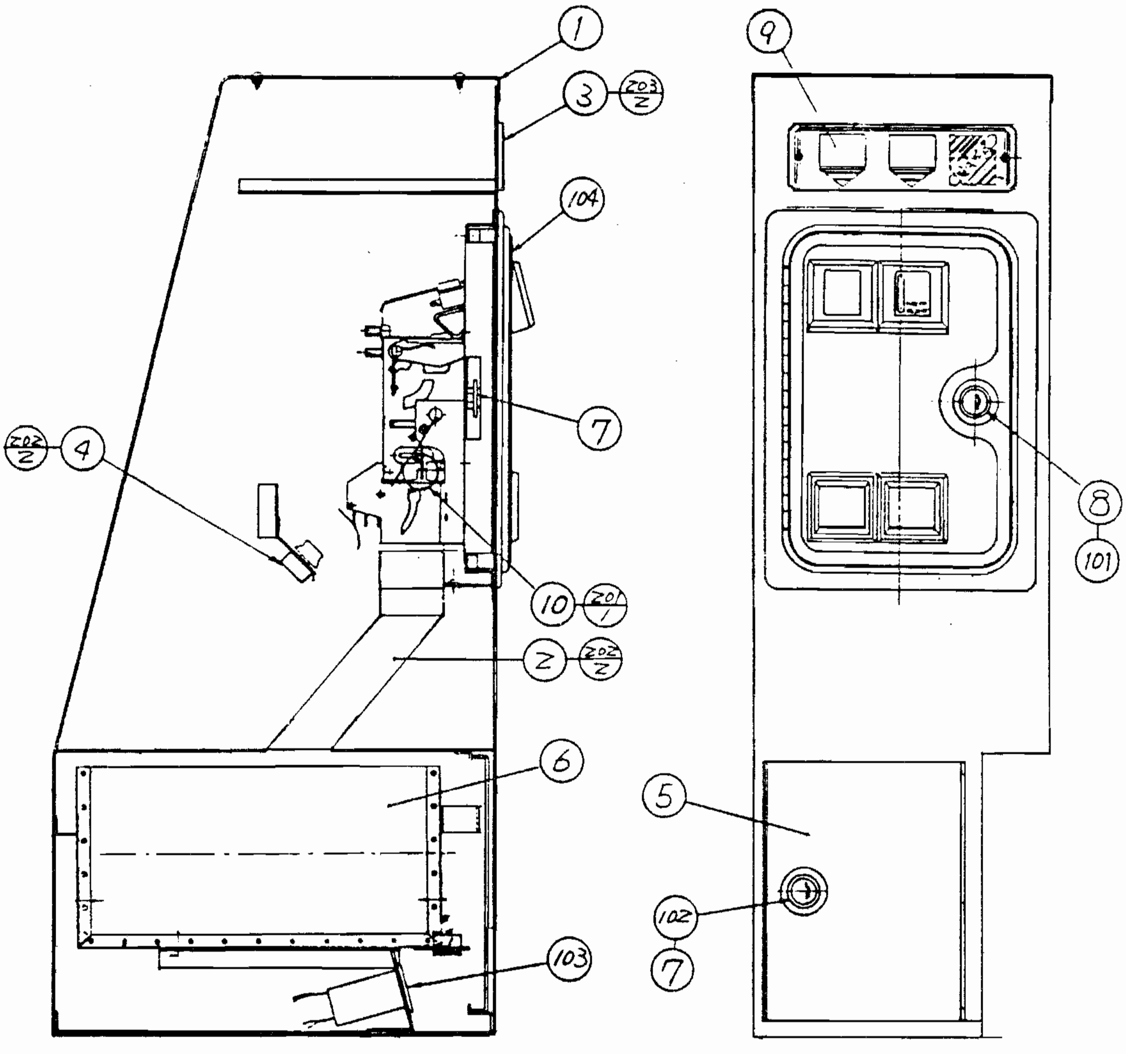




⑥ ASSY SHIFT LEVER S (KR-13001) (D-2/2)

ITEM No.	PART No.	DESCRIPTION
1	KR-1312	SHIFT BRACKET B
2	KR-1314	COVER BRACKET B
3	KR-1303	STOPPER
4	KR-1320	COMPRESSION SPRING
5	KR-1304	SHAFT
6	KR-1315	SUB ASSY SHIFT LEVER
7	SGB-3740-5	WIRE HARN SHIFT SW
	211-0043	CONN PLUG AMP 2P WHITE
	280-5015	FASTON RCPT 187
8	KR-1316	SPACER
9	KR-1318	MOUNT BRACKET
101	211-0041	CONN PIN AMP
102	101-5004	STEEL BALL ∅8.7312
103	509-5088	SW MICRO TYPE
104	310-0012	PAPER INSULATOR
105	117-0141	LOCK PLATE
201	069-0005	FLT WSHR SPECIAL 8.3-14.3×0.5
202	000-0408-FS	M SCR PH W/FS M4×8
203	069-0049	NYLON WASHER SPECIAL 8.5-14×1
204	000-0316	M SCR PH M3×16
205	069-0007	FLT WSHR
206	065-0006	E RING 6mm
207	054-0004	M4 U NUT
208	010-0408-F	S-TITE SCR W/F M4×8

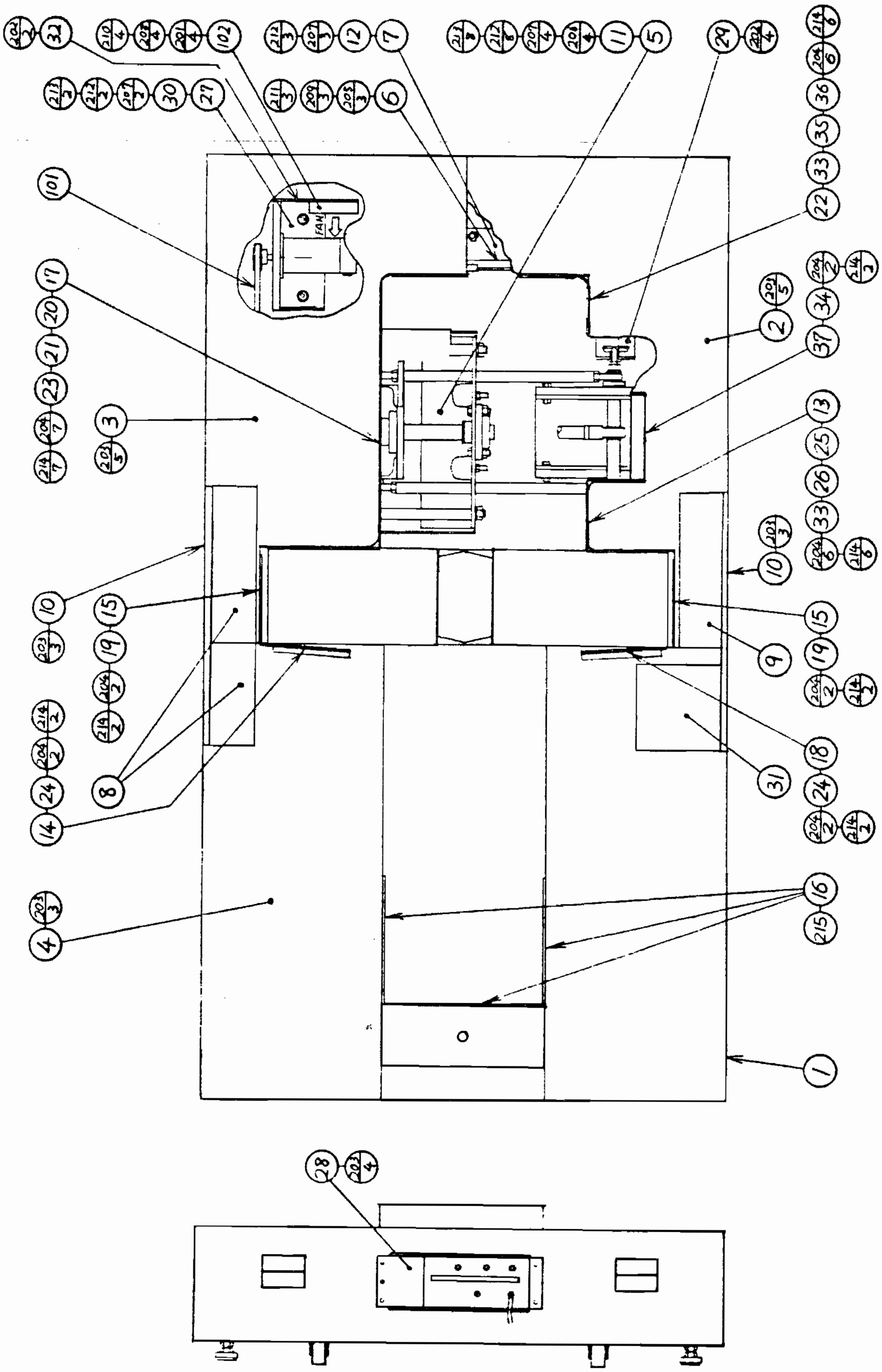
⑦ ASSY COIN CHUTE BOX S (KR-14003) (D-1/2)



⑦ ASSY COIN CHUTE BOX S (KR−14003) (D−2/2)

ITEM No.	PART No.	DESCRIPTION
1	KR−1406	COIN CHUTE BOX S
2	KR−1409	COIN CHUTE BK S
3	KR−1403	DENOMINATION PLATE
4	KR−1420	SW. UNIT A
5	KR−1407	DOOR CASH BOX S
6	KR−1408	CASHBOX S
7		TNG LKG
8	HN−1050	SPACER
9	MX−1130−02	DENOMI SH 25¢
	MX−1103−03	DENOMI SH 2×25¢
10	109−0045	HOLDER KEY TURBO UPR
17	SGB−3740−16	WIRE HARN COIN SW
	211−0073	CONN PLUG AMP 4P WHITE
18	SGB−3740−17	WIRE HARN COIN METER
	211−0087	CONN PLUG AMP 4P BROWN
	211−0041	CONN PIN AMP FASTON PCRT 187
101	220−5044−01	MAGNETIC LOCK MASTER W/O KEY
102	220−5046	MAGNETIC LOCK W/KEY
103	220−5064	MAG CNTR 6DIG DC 5V
104	220−5174−02	ASSY COIN CHUTE DOOR USA 25¢ TWIN
105	280−5008	CORD CLAMP ∅15
201	000−0306−FS	M SCR PH W/SF M3×6
202	010−0406−F	S−TITE SCR W/F M4×6
203	012−0410	TMP PRF SCR TH M4×10

⑧ ASSY BASE & MECHANISM (KR-20003) (D-1/4)



⑧ ASSY BASE & MECHANISM (KR-20003) (D-2/4)

ITEM No.	PART No.	DESCRIPTION
1	KR-2060	BASE S
2	KR-2061X	COVER SA
3	KR-2062	COVER SB
4	KR-2063	COVER SC
5	KR-3000	ASSY MECHANISM
6	KR-3011	GUIDE SLIDING BAR
7	KR-2008	GUIDE A. B. BAR
8	KR-2064	FLOORMAT C
9	KR-2065	FLOORMAT E
10	KR-2013	CORNER BRACKET
11	KR-2014	RUBBER SHEET MECHA
12	KR-2015	SPACER
13	KR-2072X	PROTECTOR G
14	KR-2017	PROTECTOR B
15	KR-2018	PROTECTOR C
16	KR-2019	PROTECTOR D
17	KR-2020	PROTECTOR E
18	KR-2021	PROTECTOR F
19	KR-2022	PROTECTOR BRKT A
20	KR-2023	PROTECTOR BRKT B
21	KR-2024	PROTECTOR BRKT C
22	KR-2026	PROTECTOR BRKT E
23	KR-2027	PROTECTOR BRKT F
24	KR-2068X	PROTECTOR BRKT G
25	KR-2067	PROTECTOR BRKT I
26	KR-2068	PROTECTOR BRKT J
27	KR-2030X	ASSY MOTOR
28	KR-2044	AC UNIT
29	KR-2050	ASSY BANK VR UNIT
30	RH-3018	RUBBER SHEET
31	KR-2010	FLOORMAT B
32	KR-2066	FAN MOTOR BRACKET
33	KR-2069	PROTECTOR BRKT K
34	KR-2070	PROTECTOR BRKT L
35	KR-2071X	PROTECTOR BRKT M
36	KR-2073X	PROTECTOR H
37	KR-2074	PROTECTOR I
46	SGB-3740-22	WIRE HARN DC FAN
	211-0095	CONN PLUG AMP 2P ORANGE
48	SGB-3760-6	WIRE HARN LAMP EXT B
	211-0085	CONN PLUG AMP 2P BROWN
	211-0080	CONN CAP AMP 2P BROWN
49	SGB-3760-7	WIRE HARN AC IN
	211-0103	CONN PLUG AMP 6P RED
	211-0124	CONN CAP AMP 6P RED
50	SGB-3760-8	WIRE HARN SW REGU
	211-0094	CONN PLUG AMP 2P RED
	211-0115	CONN CAP AMP 2P RED
51	SGB-3760-9	WIRE HARN DRIVE MOTOR EXT
	211-0085	CONN PLUG AMP 2P BROWN
	211-0080	CONN CAP AMP 2P BROWN
	211-0060	CONN CAP AMP 3P WHITE
54	SGB-3760-12	WIRE HARN DC FAN EXT
	211-0095	CONN PLUG AMP 2P ORANGE
	211-0116	CONN CAP AMP 2P ORANGE

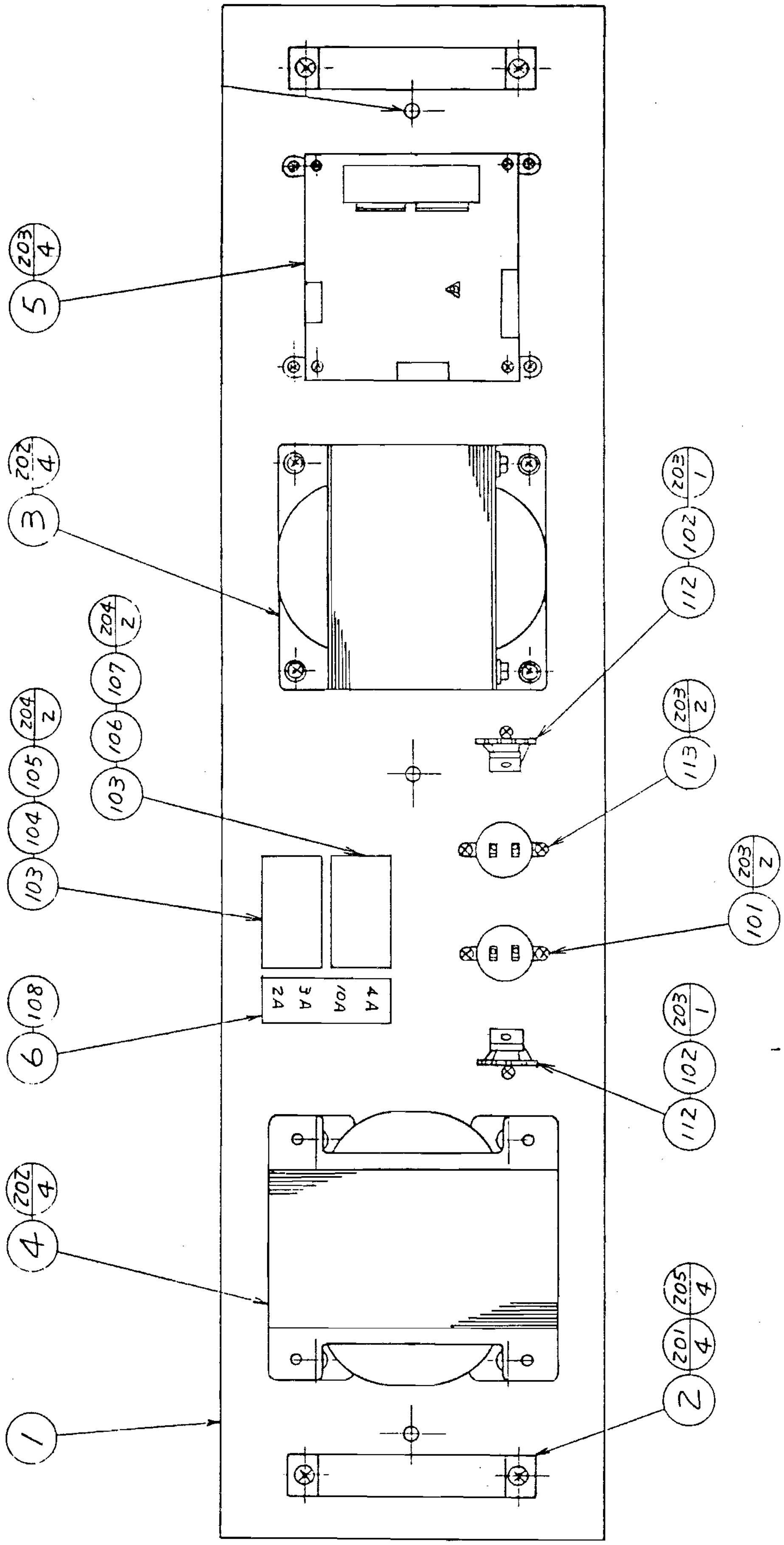
⑧ ASSY BASE & MECHANISM (KR-20003) (D-3/4)

ITEM No.	PART No.	DESCRIPTION
55	SGB-3760-13	WIRE HARN BANK VR EXT
	211-0098	CONN PLUG AMP 3P ORANGE
	211-0119	CONN CAP AMP 3P ORANGE
56	SGB-3760-14	WIRE HARN LIMIT SW EXT
	211-0102	CONN CAP AMP 4P YELLOW
	211-0123	CONN CAP AMP 4P YELLOW
57	SGB-3760-15	WIRE HARN LEFT SP EXT "B"
	211-0094	CONN PLUG AMP 2P RED
	211-0115	CONN CAP AMP 2P RED
58	SGB-3760-16	WIRE HARN RIGHT SP EXT "B"
	211-0095	CONN PLUG AMP 2P ORANGE
	211-0116	CONN CAP AMP 2P ORANGE
59	SGB-3760-17	WIRE HARN AUDIO VR EXT
	211-0082	CONN CAP AMP 4P BROWN
	211-0087	CONN PLUG AMP 4P BROWN
60	SGB-3760-18	WIRE HARN SW EXT
	211-0086	CONN PLUG AMP 3P BROWN
	211-0081	CONN CAP AMP 3P BROWN
61	SGB-3740-27	WIRE HARN DEM EXT
	211-0096	CONN PLUG AMP 2P YELLOW
	211-0115	CONN CAP AMP 2P RED
	211-0080	CONN CAP AMP 2P BROWN
62	SGB-3760-20	WIRE HARN COIN EXT
	211-0073	CONN PLUG AMP 4P WHITE
	211-0072	CONN CAP AMP 4P WHITE
63	SGB-3760-21	WIRE HARN COIN METER EXT
	211-0087	CONN PLUG AMP 4P BROWN
	211-0082	CONN CAP AMP 4P BROWN
64	SGB-3760-22	WIRE HARN CLUTCH EXT
	211-0086	CONN PLUG AMP 3P BROWN
	211-0081	CONN CAP AMP 3P BROWN
	211-0080	CONN CAP AMP 2P BROWN
65	SGB-3760-23	WIRE HARN AC FAN FXT
	211-0096	CONN PLUG AMP 2P YELLOW
	211-0117	CONN CAP AMP 2P YELLOW
66	SGB-3760-24	WIRE HARN CRT EXT
	211-0096	CONN PLUG AMP 2P YELLOW
	211-0117	CONN CAP AMP 2P YELLOW
67	SGB-3760-25	WIRE HARN 18V EXT
	211-0094	CONN PLUG AMP 2P RED
	211-0115	CONN CAP AMP 2P RED
68	SGB-3760-26	WIRE HARN DRIVE EXT
	211-0044	CONN CAP AMP 2P WHITE
	211-0043	CONN PLUG AMP 2P WHITE
69	SGB-3760-35	WIRE HARN MUTE EXT
	211-0043	CONN PLUG AMP 2P WHITE
	211-0044	CONN CAP AMP 2P WHITE
70	SGB-3760-19	WIRE HARN AUDIO EXT
	211-0073	CONN PLUG AMP 4P WHITE
	211-0072	CONN CAP AMP 4P WHITE
71	SGB-3760-36	WIRE HARN HEADER EXT A
	211-0096	CONN PLUG AMP 2P YELLOW
	211-0117	CONN CAP AMP 2P YELLOW

⑧ ASSY BASE & MECHANISM (KR-20003) (D-4/4)

ITEM No.	PART No.	DESCRIPTION
72	SGB-3760-39	WIRE HARN CARD AC IN
	211-0096	CONN PLUG AMP 2P YELLOW
	211-0117	CONN CAP AMP 2P YELLOW
	211-0041	CONN PIN AMP
	211-0042	CONN SOCKET AMP
73	SGB-3760-40	WIRE HARN NETWORK EXT A
	211-5086	CONN CAP AMP MINI 6P WHITE
	211-5087	CONN PLUG AMP MINI 6P WHITE
74	SGB-3760-41	WIRE HARN NETWORK EXT B
	211-5107	CONN CAP AMP MINI 6P RED
	211-5018	CONN PLUG AMP MINI 6P RED
	211-5054	CONN PIN AMP MINI (AMP 170360-1)
	211-5055	CONN SOCKET AMP MINI (AMP 170362-1)
101	350-5085	V-BELT
102	260-0015	DC FAN MOTOR
103	310-5008	INSL SPIRAL TUBE ID ⌀6
104	310-5010	INSL SPIRAL TUBE ID ⌀12
105	310-5018	INSL SPIRAL TUBE ID ⌀25
106	601-0460	TIE BELT 85mm
108	601-5526	BUSH 1.6t
109	601-0460	TIE BELT 85mm
110	601-5526	BUSH 1.6t
111	280-5008	CORD CLAMP ⌀15
112	280-5009	
201	000-0450	M SCR PH M4×50
202	000-0510-FS	M SCR PH W/SF M5×10
203	008-0510	TMP PRF SCR TH M5×10
204	029-0047	M SCR PH BLK M4×10
205	030-0830	HEX BLT M8×30
206	039-0008	HEX BLT S=30 M10×30
207	050-0010	HEX NUT M10
208	060-0004	FLT WSHR M4
209	060-0008	FLT WSHR M8
210	061-0004	SPR WSHR M4
211	061-0008	SPR WSHR M8
212	061-0010	SPR WSHR M10
213	069-0009	FLT WSHR 10.5-28-2
214	069-0024	FLT WSHR BLK M4
215	244-119	DOUBLE-FACE TAPE CLOTH 20mm×15m/ROLL
216	029-0088	M. SCR P·H BLK M4×6

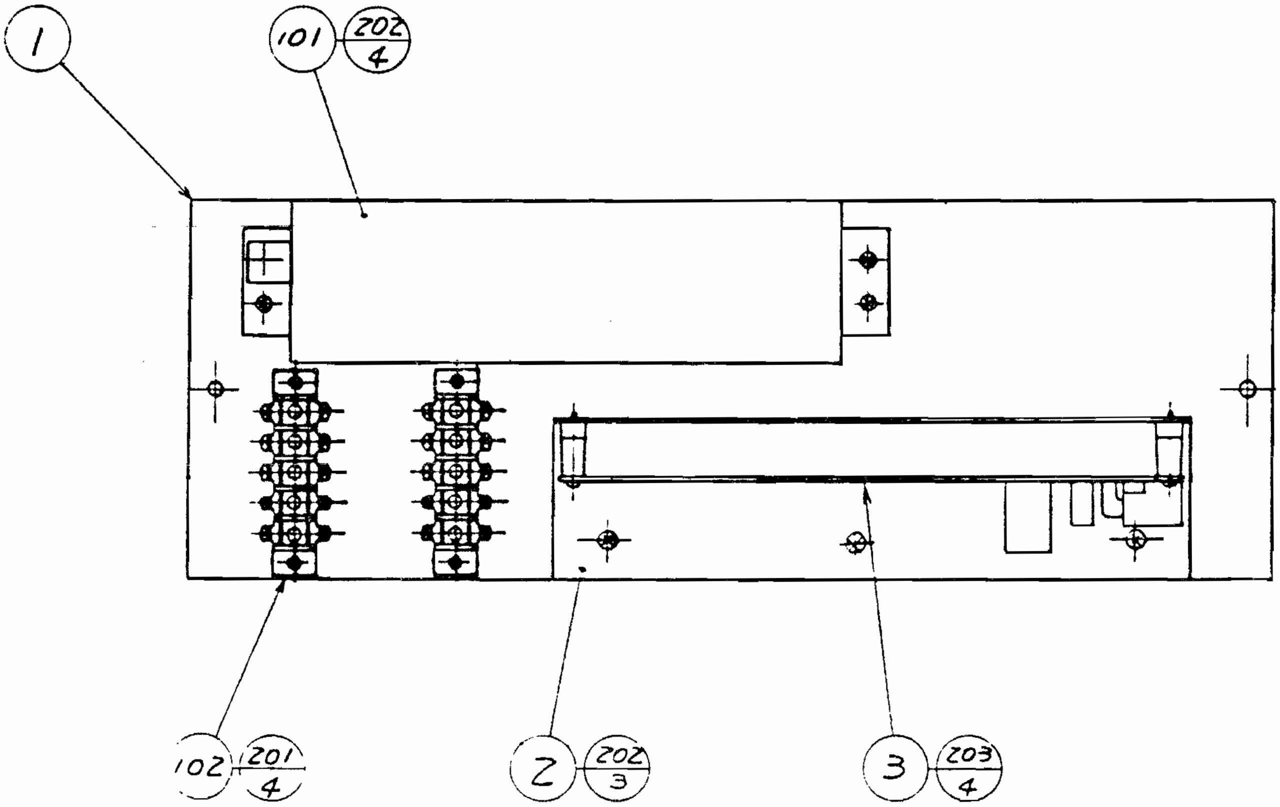
⑨ ASSY POWER SUPPLY & AMP (KR−40003) (D−1/2)



⑨ ASSY POWER SUPPLY & AMP (KR-40003) (D-2/2)

ITEM No.	PART No.	DESCRIPTION
1	KR-4003	WOODEN BASE
2	RH-4002	GRIP
3	560-5091	PWR XFMR 90~240V 100V 2A 11V 5A
4	560-5092	PWR XFMR 90~240V 60. 70. 80V 5.5A 18V 1.5A 9.5V 1A
5	839-0035	PWR AMP BD
6	421-6512	STICKER FUSE INSTR
7	SGB-3760-1	WIRE HARN PWR SUPPLY & AMP
	211-0044	CONN CAP AMP 2P WHITE
	211-0080	CONN CAP AMP 2P BROWN
	211-0115	CONN CAP AMP 2P RED
	211-0116	CONN CAP AMP 2P ORANGE
	211-0117	CONN CAP AMP 2P YELLOW
	211-0081	CONN CAP AMP 3P BROWN
	211-0082	CONN CAP AMP 4P BROWN
	211-0073	CONN PLUG AMP 4P WHITE
	211-0103	CONN PLUG AMP 6P RED
	211-0043	CONN PLUG AMP 2P WHITE
	212-5034	CONN FEM 6P MOLEX
	212-5067	CONN FEM 8P MOLEX
	211-0005	CONN CLALP LOCK (MOLEX 08-05-0105)
	211-0041	CONN PIN AMP (AMP 350687-1)
	211-0042	CONN SOCKET AMP (AMP 350536-1)
	212-5076	CONN FEM 4P MOLEX
101	150-0173	CAP E 4700μF 50V
102	117-0184	TERMINAL PLATE IL 4P
103	514-0064	FUSE HOLDER 2P W/COVER
104	514-0032	FUSE 2A 6.4×30mm
105	514-0036	FUSE 3A 6.4×30mm
106	514-0040	FUSE 4A 6.4×30mm
107	514-0035	FUSE 10A 6.4×30mm
108	601-0769	STAPLE MAX #3
109	601-0460	PLASTIC TIE BELT
110	280-5008	CORD CLAMP ⌀15
111	280-0419	HARN LUG
112	481-0157	DIODE BRIDGE S5VB20
113	150-0265	CAP E 22000MF 25V C-TYPE
	150-0173	CAP E 4700MF 50V
201	000-0514	M SCR PH M5×14
202	000-516-FS	M SCR PH W/F & S M5×16
203	005-3113	W SCR RH 3.1×13
204	005-3520	W SCR RH 3.5×20
205	061-0005	S WASHER M5
206	006-3113	W SCR FH 3.1×13

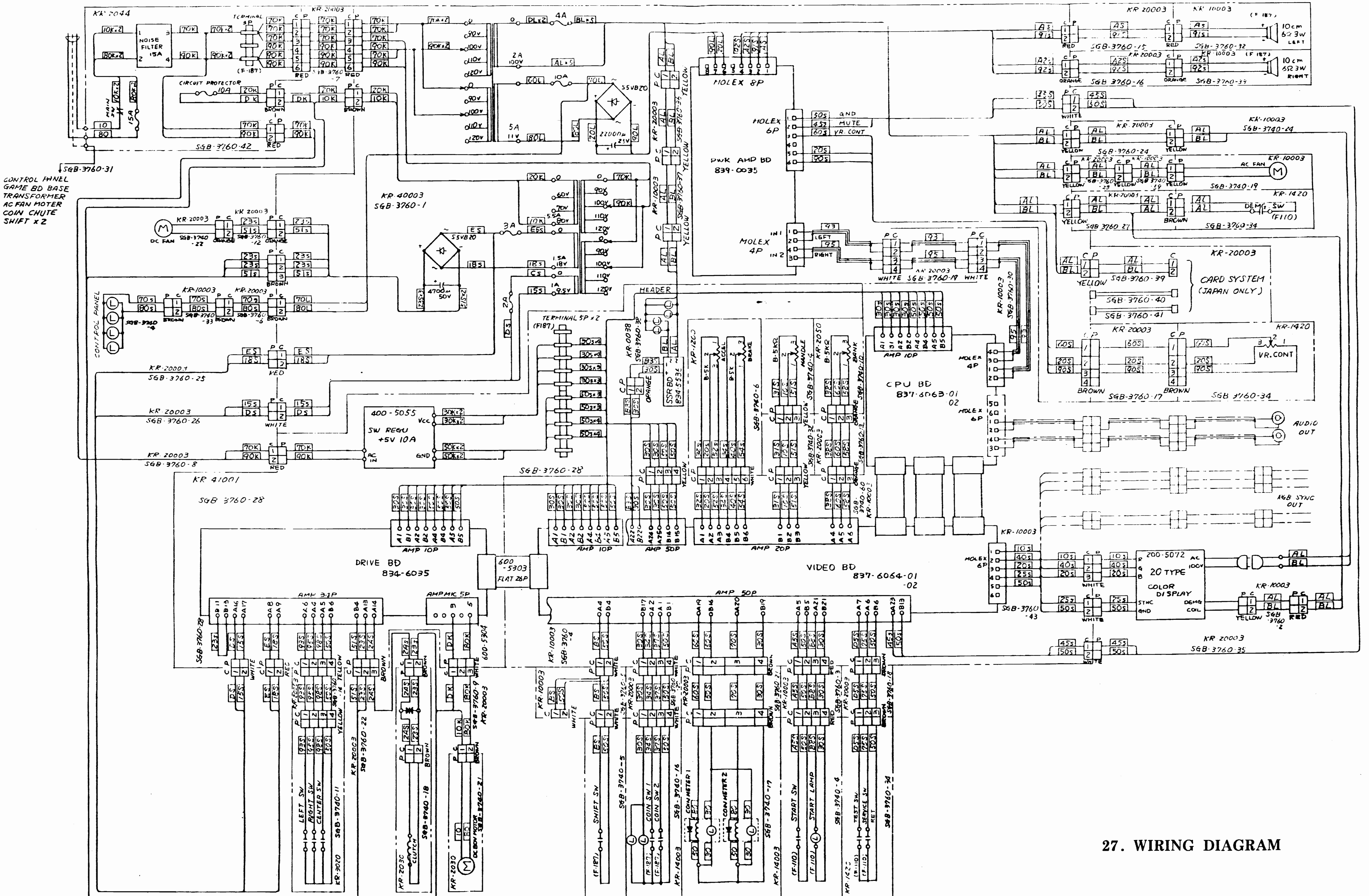
⑩ ASSY SW RGLTR & DRIVE BD (KR−41001) (D−1/1)



ITEM No.	PART No.	DESCRIPTION
1	KR−4101	WOODEN BASE
2	KR−4103	BRACKET
3	834−6035	DRIVE BD OUT RUN
4	SGB−3760−28	WIRE HARN SW RGLTR
	211−0043	CONN PLUG AMP 2P WHITE
	211−0094	CONN PLUG AMP 2P RED
	211−0086	CONN PLUG AMP 3P BROWN
	211−0123	CONN CAP AMP 4P YELLOW
	211−5101	CONN FEM 10P AMP
	211−5046	CONN FEM 34P AMP
	211−0041	CONN PIN AMP (AMP 350687−1)
	211−0042	CONN SOCKET AMP (AMP 350536−1)
	211−5047	CONTACT (AMP 170435−4)
5	600−5303	ASSY FEM & FC 26P
6	600−5304	ASSY WIRE HARN MIC 5P
101	400−5055	SW RGLTR 90∼240∼ 5V 10A
102	117−5131	TERMINAL PLATE 5P
103	280−0419	HARN LUG
104	601−0460	PLASTIC TIE BELT 85mm
105	280−5015	FASTON RCPT 187
106	211−0167	TERM LUG RND ID 5
107	270−5016	FERRITE SLEEVE CORE
201	005−3520	W SCR RH 3.5×20
202	005−3513−F	W SCR RH W/F 3.5×13
203	010−0310−F	S−TITE SCR PH W/F M3×10

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27. WIRING DIAGRAM